The Builder.

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Social Progress.

AN unusual amount of the time of the House of Commons has already been devoted to questions affecting the habitations of different classes of the community. Mr. T. Hughes has brought forward proposed additions to standing orders with the intent of compelling railway companies to provide new dwellings for such of the labouring population as they unhoused by the demolition necessary to provide access to the heart of the metropolis. The honourable member appeared to think it sufficient endorsement of his plan, that it had the approval of such of the authorities of the principal railways as he had consulted. A very cursory glance, however, at the reports of railway half-yearly and special meetings will show that the disposition on the part of directors to increase the capital account of their various constituencies by investments which, however good in themselves, and likely to promote traffic, are not the objects for which the money of the shareholders was subscribed, is rather the rule than the exception, and that the principal staple of the speeches that emanate from the shareholders themselves, as distinguished from the directors, consists of efforts to close or to limit the capital account. While admitting the hardship that occasionally arises, and evincing a desire to study the convenience of the working bees, that is increasingly manifest in politicians of every colour, the House came to the almost unanimous conclusion that the measure proposed by the honourable member for Lambeth was neither just nor practicable.

That the difficulty complained of by Mr. Hughes exists no one denies. In all public improvements some individuals or some classes must be sufferers. A city cannot undergo the process that is now taking place in so many of the great centres of population in England, France, and Italy, without inconvenience to the occupiers of those smaller houses that are pulled down to make room for larger dwellings. But not only has no case been made out for legislative action in a direction contrary to the general principles that regulate supply and demand, but the conversion of a railway company into a building society, or into the projectors and owners of a great stack of lodging-houses, does not seem to be a step so fully in the interest of the labouring tenants as the honourable member would imply.

Later in the same sitting the House returned to the consideration of the subject of healthy dwelling-places on Sir Robert Peel's motion for enforcing the consumption of smoke. Members appeared to hear with surprise that the consumption of smoke is a measure not only of cleanliness and of health, but of economy; that by the use of Jukes's apparatus the object was easily attained; that 20 per cent. and upwards of all the coal used in our manufactories is wasted in the obnoxious form of smoke; that the existing laws only require to be applied, and not to be amended; and finally, that that admitted nuisance, the common informer, was the best practical remedy for the greater nuisance of the smoky furnace. Leicester, we are told by Sir Morton Peto, while surrounded by manufactories, is subject to a sort of Maine Law of its own adoption against smoke, and flowers are to be found blooming in the very heart of the town.

It was hardly sufficiently pointed out that, after all, smoke is free from being the most prejudicial of the gaseous products of combustion; and that it is in the open-fire system, so universal in our dwelling-houses, that the greatest amount of unprofitable burning of our most valuable mineral, our measured store of which is now disappearing at the rate of a hundred millions of tons per annum, and the greatest consequent pollution of the atmosphere, take place.

Closely allied to the question of providing abodes for the labouring classes, and of making city life more healthy and more tolerable for all those to whom it is necessary, must be ranked the encouraging facts called to light by the returns brought forward by Government in connexion with (it cannot be said as the foundation of) their Reform Bill. It has been left to the present century to learn the value of the accurate collection of facts. From large and truthful premises, whatever be the object with which they may be collected, inductions may often be drawn that are not the less valuable because they are unexpected. Thus, from these returns, ordered and made, we may say, with an exclusively political, if not party, object, emerges the great and encouraging fact of the steady improvement of the material welfare of the population. While Whig and Tory, or the men of those unnamed political shades that have succeeded to our traditional Government by party, are disputing as to the limit of the franchise, the franchise has been steadily lowering itself, or, rather, the labouring and trading classes, by the steady pursuit of industry, and by the exercise of those Saxon virtues that have been defined as the fear of the constable, have been steadily raising themselves so as to pass the boundary set in the first Reform Bill as that of the right to vote. Revolution is a word that is usually read by the lurid light of the burning of the Bastile; but it must not be forgotten that revolution is a word of extensive meaning. It expresses changes as gradual and as necessary as are those of the planets in their orbits; or it expresses sudden, violent, and frantic change. A steady determination to resist the first kind of revolution has been found, for the last 2,000 years, to be the surest means of producing the second. The greater the facility with which the varying and constantly increasing requirements of social life are met, the greater the aptitude with which the instincts of mankind are involved to adapt daily habit to changing phases of knowledge and of thought, the greater is the stability of the State. It is thus in acknowledging and endeavouring to understand the slow and placid march of that great English revolution in the midst of which our lot is cast, that we shall find the best assurance that its purposes shall neither be blindly checked nor blindly hurried on. In the opinion of many, perhaps in the just and enlightened opinion of those best competent to judge, it may be that the present phase of society, and those future phases towards which English social life is visibly tending, are not those best suited for the development either of the highest faculties of the few, or of the greatest welfare of the many. But be that as it may, no man of intelligence can expect to reverse the march of human thought. The whole of our recent legislation, so far as that legislation has any *ensemble*, or is other than fragmentary, points in one direction. The welfare, the opinion, the power of the many are set forth by every political orator as the great objects to be studied. Certainly the greatest happiness of the greatest number of human beings is a noble object of pursuit, whether the means by which it is attempted to be secured are well or ill judged. It must therefore be cause of gratulation to every well-informed and well-meaning man, when he finds such improvements taking place in the condition of those classes that form the broad basis of the pyramid of English society as are safe because they are spontaneous; changes that bring permanent good, because they emanate not from patching the law, but from the order, industry, and intelligence of the community; changes that do not resemble the rebuilding of an old house, but the fresh and vigorous growth of an ancient and stately tree.

From the day that the elastic power of the vapour of water was first successfully employed as a motive, and more especially as a locomotive power, it became clear to those who sought to trace the influence of this new aid to labour on the future history of man, that the relations of the race to their terrestrial abode would be strikingly modified. Human life, in fact, was extended, as much as human power was increased, by the command given over the means of transport. Not only were mechanical problems, before insoluble, such as the erection of our great viaducts, rendered possible by the invention of Watt, but distance itself was annihilated by a series of mechanical improvements that place Bombay as near to London now as Edinburgh was in the reign of Edward I.

The steps by which this great change in man's physical position on earth takes place could not be foretold with as much distinctness as could be claimed for the prediction that mighty change was imminent. The good heart and fine instinct of Robert Stephenson pointed to one of them when he said he hoped to see the time when *no poor man could afford to walk* to his daily task. The great engineer, like so many others of his contemporaries, himself laboured too hard in the service of his fellows to live to see his hope fulfilled. But questions like those debated on Friday night in the House of Commons point to the good time fore-shadowed by Stephenson. They point to a period in our social history, we hope not far distant, when no poor man shall afford to live in squalor and in pollution; when a nation that can palace its legislators in such edifices as that reared by Barry at Westminster, shall no longer hide and destroy its workers in rookeries and in fever beds; when it shall be understood that a human being of twenty-five or thirty years of age is a valuable and costly product, and that it concerns those who wish well to the state to watch that this valuable product be not rashly lost to the community by the neglect of causes over which the community can watch; when the labourer shall be well housed, well clothed, well fed, well carried to and from his scene of daily toil; and that with the more certitude and the more success when, by a wise and large development of principles already in practical and local operation, the labouring Englishman shall bring his shrewd sense, his indomitable industry, and his means of acquiring the best scientific guidance to bear on the practical solution of the great question, how best to house, feed, clothe, and convey *himself*.

THE MARKET-CROSSES OF SCOTLAND.

IT is now five or six years since a proposal was made, and seriously entertained, to restore the ancient market-cross of Edinburgh. The suggestion came, we believe, from Mr. William Chambers, the recently-elected Lord Provost of the Scottish capital, and a few other gentlemen who acted with him in the matter. Mr. Chambers, as our readers are aware, has worthily inaugurated his provostship by a plan for the sanitary improvement of the most wretched and ill-conditioned streets and closes in the Old Town of Edinburgh; and those who know what

the long closes in the historical High-street of Auld Reekie are like, will readily acknowledge the desirability of, not to say the urgent necessity for, Provost Chambers's scheme. A zealous social reformer, Mr. Chambers is likewise an ardent antiquary, with a particular admiration of old market-crosses, and no good opinion of those stupid Scotch bailies and town-councillors who have in so many instances ruthlessly demolished them. He has more than once advocated the sacredness of these interesting memorials of bygone days; and it is well known that the restoration of the cross of Edinburgh has long been a strong wish with him. We shall have occasion, in the course of our remarks, to say a word on the market-cross of Mr. Chambers's native town of Peebles, and his restoration of that interesting object. There is little doubt we owe it to the fact that Mr. Chambers has been elected chief magistrate of Edinburgh that a beginning has at length been made to restore its ancient cross. As was announced in the *Builder* of the 24th of February,—"The work of restoring the old city cross, in the space within the railing on the north side of St. Giles's Cathedral, is now in progress." The fact seems to offer a fitting opportunity to say something about this cross, as well as about some other Scottish crosses whose history and fate are not devoid of interest.

In Scotland, as in England, nearly every town in the olden time had its market-cross; the cross always occupied the centre or leading thoroughfare of the town, and was imposing as an architectural structure, in proportion to the taste, size, and importance of the place. Crosses, it is almost needless to say, partake of many different forms, and are set apart to mark a variety of objects. Mr. Fosbrooke enumerates no fewer than ten different kinds of crosses, viz.:—1. Preaching; 2. Market; 3. Weeping; 4. Street; 5. Memorial; 6. Landmark; 7. Sepulchral; 8. Highway; 9. Entrance to churches; 10. Attestation of peace. Confining ourselves to market-crosses, we find that in Scotland these are at least of two designs; first, there is the cross consisting of a stone shaft springing from a circular or octagonal flight of steps, as in the case of the cross at Melrose; and, secondly, there is the cross formed of an octagonal or hexagonal building, 10 ft. or 12 ft. high, and less or more ornamented, having a platform roof, from which springs a shaft, the platform being reached by an inside stair. The cross at Aberdeen is a beautiful example of this style, which is generally believed to have been the style of all earlier crosses in places of any importance. Such was the form of the old Edinburgh Cross. There have been two market-crosses in Edinburgh. Of the older cross, unfortunately no description has been handed down to us; but that it was an elegant and imposing erection in the old Scottish style of architecture there is every reason to believe. It stood in the centre of the High-street, and was taken down in 1617, to give greater effect to the royal procession of James VI., on his first visit to Scotland after his accession to the English crown. The king had been absent from his Scottish subjects for fourteen years, and they had begun to fear that he was never coming back; their delight, therefore, at his Majesty's return knew no bounds. The magistrates, in particular, were overflowing with loyalty, and the better to kick up their heels for joy, they were indiscreet enough to order the removal of the cross, which, as they thought, stood in the way. What a host of historical associations cling round this ancient relic—of what memorable events it was the scene! It was for ages the place where all royal proclamations were made, the rendezvous of traders and commercial men, the rallying point of popular assemblies, the focus of civic merry-makings, and the principal place for executions. Before the art of printing was known, says the historian, the Edinburgh cross was in existence, and Acts of Parliament were here read out to the people. It was at this cross, in 1437, that the assassins of the amiable and accomplished James I. were executed. There John Knox was burnt in effigy, on the occasion of his hasty flight to the Continent in 1556. Five years later, when Mary Queen of Scots arrived from France, we are told that "the stone spouts of the cross ran with wine." It was here, too, in 1573, that Sir William Kirkaldy, the famous laird of Grange, and one of the best and most accomplished cavaliers of his time, was executed. His brother was executed along with him. At this cross Earl Bothwell, the unscrupulous husband of the unfortunate Mary Stuart, was proclaimed a traitor in 1593. At this cross, moreover, a singularly interesting ceremony took place in 1600. When the news of the failure of the Gowrie conspiracy reached Edinburgh, the cross was hung with tapestry, the whole city, headed by the magistrates and judges went and met the king on the sands of Leith, and from thence he rode in triumph, amid an immense concourse of all classes of his subjects to the cross: there Mr. Patrick Galloway "made ane sermon upon the 124th Psalm; he declared the haill circumstance of the treason proposed by the Earl of Gowrie and his brother, whilk the king testified by his own mouth, sitting on the cross all the time of the sermon." This sermon, says Tytler, still remains an extraordinary specimen of the pulpit eloquence of the times.

Immediately after the demolition of this venerable memorial in 1617, the foundation of a new cross was laid a few yards southwards of the former site. It would seem that the shaft or pillar of the old cross was preserved, and, placed on a new octagon building, formed the new one. The structure is believed to have been an inferior piece of architecture to the original cross. It is thus described by Hugo Arnot in his "History of Edinburgh:"—

"The Cross of Edinburgh was an ancient structure of mixed architecture, partly Grecian, partly Gothic. The building was an octagon, of 16 ft. diameter, and about 15 ft. high, besides the pillar in the centre. At each angle there was an Ionic pillar, from the top of which a species of Gothic bastion projected; and between the columns there were modern arches. Upon the top of the arch fronting the Netherbow, the town's arms were cut in the shape of a medallion, in rude workmanship. Over the other arches, heads, also cut in the shape of a medallion, were placed. These appeared to have been of much older workmanship than the town's arms, or any other part of the cross. The heads were in alto-relievo, of good engraving; but the Gothic barbarity of the figures themselves bore the appearance of the Lower Empire. One of the heads was armed with a casque; another with a wreath, resembling a turban; a third had the hair turned upwards from the roots towards the occiput, whence the ends of the hair stood out like points. This figure had over its left shoulder a twisted staff, probably intended for a sceptre. The fourth was the head of a woman, with some folds of linen carelessly wrapped round it. The entry to this building was by a door fronting the Netherbow, which gave access to a stair in the inside leading to a platform on the top of the building. From the platform rose a column, consisting of one stone, upwards of 20 ft. high, and of 18 in. diameter, spangled with thistles, and adorned with a Corinthian capital, upon the top of which was a unicorn."

The cross was duly inaugurated. Says an old historian, "The magistrates danced about the cross, with sound of trumpets and other instruments, throwed glasses of wine from the cross upon the people, and ended with the king's health." For nearly a century and a half this structure, like its predecessor, was identified with many stirring events. The great Montrose, "The Napoleon of Scotland," was hanged and quartered here, May 20, 1650. At the restoration of monarchy, in 1660, the spouts of the cross, according to the old usage, ran with wine. In 1661, the Marquis of Argyll was beheaded by the *maiden* here; and his son, the Earl of Argyll, met with the same fate in 1685. But we need not add to the list. In the year 1756, a taste for fine art evidently not being included among the corporate gifts of the Edinburgh magistrates, the cross was ordered to be removed on the plea that it was an encumbrance to the street. The work of destruction was accordingly carried into effect, and a radiated pavement is all that marks the spot where the famous fabric stood. The reader will remember the passage in "Marmion" in which Sir Walter Scott so bitterly laments the fate of Dun-Edin's Cross:—

"Dun-Edin's Cross, a pillar'd stone,
Rose on a turret octagon;
But now is razed that monument,
Whence royal edict rang,
And voice of Scotland's law was sent
In glorious trumpet clang.
Oh! be his tomb as lead to lead
Upon its dull destroyer's head!—
A minstrel's malison is said."

Happily the blunder committed by the barbaric civic dignitaries of the eighteenth century is being repaired, as far as it is possible to repair it, by their more enlightened successors of 1866; and there will be somewhat less cause at least to regret the loss of Edina's Cross a short time hence than there has been. On the removal of the cross, as we learn from Chambers's "Gazetteer," the four sculptured stones described by Arnot were secured by an eccentric gentleman, Mr. Walter Ross, a writer to the Signet, and built into a kind of tower which he erected near his house at Stockbridge, of stones procured from various old buildings, and which was long known by the name of Ross's Folly. On the destruction of this tower about forty years ago, these stones came into the possession of Sir Walter Scott, and are now, or were some time ago, preserved at Abbotsford. The shaft, which unfortunately was broken in the act of being taken down, was transferred to Drum, the seat of Mr. Innes, of Stow, about four miles south of Edinburgh. Arnot would seem to have been somewhat in error in his description of the cross. Mr. Cousin, the city architect of Edinburgh, some time ago examined the column at Drum, and in his report he said:—

"The shaft, 13 ft. 11 in. high, exclusive of the capital, is in five separate pieces, held together by iron clasps sunk into the face of the stone, and octagonal in form, 17¼ inches in diameter, quite plain throughout its entire length, though described by Arnot as 'spangled with thistles.' It is surmounted by a Gothic capital of the Perpendicular period (not 'Corinthian,' as stated by Arnot), having the usual neck moulding—bell and abacus—the latter surmounted by the embattled cope. The capital is a good deal weather-worn and decayed, the embattled cope being much so, and portions of the foliage on two faces of the octagon have been defaced by causes obviously other than the ordinary effects of time and weather. The carvings of the capital consist, on the lower portion, of dragons, eight in number, surmounting the neck of the bell, their heads and tails intertwining where they meet; the upper portion consists of foliage projecting rather freely beyond the contour of the bell, characteristic, but not in a high style of art, nor in good taste."

Mr. Cousin assigns the date of the work to the latter end of the fourteenth, or beginning of the fifteenth century, remarking, that it is unquestionably of a greatly earlier period than the main body of the building, which, as we have shown, dates from the early part of the seventeenth century. In an address issued by Mr. William Chambers in 1861, on the subject of the restoration of the Edinburgh Cross, he stated that this shaft had been generously gifted to the town in aid of the object in view, and we understand that it is intended to incorporate this fragment in the new erection. Speaking on behalf of himself and his coadjutors, Mr. Chambers said, "In the restoration, we should abide by the outline and dimensions of the cross removed in 1756; for, as far as these leading features are concerned, there could be no improvement. Our object, in fact, is to restore the old cross in form and character, as nearly as that can be done; and only adopt a purer and more elegant style of art in the lower part of the structure. In this, however, as well as regards heraldic devices, every possible care will be taken in adopting plans, and deciding on details. As is well known, the cross removed in 1756, was an octagon of about 16 ft. across, which we expect will be our measurement, and afford platform accommodation to from thirty to forty persons." The estimated cost of restoration is about 1,200*l.*, and the greater part, if not the whole sum has been subscribed. When completed, the new cross will be alike an object of historical interest, an appropriate symbol of municipal dignity, and a pleasing addition to the architectural features of "mine own romantic town." Let the restored cross be inaugurated with all the ceremony and *éclat* befitting so important an object; and may it be long before any unhallowed hands dare to disturb it!

It may be mentioned, that besides *the* Cross of Edinburgh, there was at one time a cross in the Canongate, opposite to St. John-street, called St. John's Cross; another in front of the Canongate Church; and a third, called the Girth Cross, from its being the boundary of the sanctuary for prisoners at Holyrood. It would be interesting to know what became of these several memorials.

We come to the Cross of Aberdeen, of which all Aberdonians are so proud. And not without reason, for their cross is at this moment by far the finest thing of the kind in Scotland. A writer in the "Encyclopædia Britannica," speaks of it as "a singularly beautiful erection." The author of the "Book of Bon Accord," says, "Though the structure cannot be compared with some of the magnificent market-crosses of England, it certainly surpasses every building of the same description in Scotland;" and Chambers remarks, that it "cannot be too highly admired, whether as an architectural object or an antiquarian wonder." It is true that one historian of the granite city gives it as his opinion that "this erection is neither useful nor ornamental." But this worthy has been called "the leaden-headed Walter Thom," and he is plainly out of court in matters of taste. Not ornamental! As

well might it be said that there is no colour in the rainbow, or no form in the Venus di Medicis. The Aberdeen Cross has the additional merit of being the work of native talent. It was designed and executed by Mr. John Montgomery, of Old Rayne, in 1686, at a cost of 100*l.* sterling. The structure is of sandstone, of mixed architecture, and hexagonal in form. It is considerably larger than the Edinburgh Cross, already described, being 21 ft. in diameter, and 18 ft. in height. At each angle of the hexagon is an Ionic column, with arches between, surmounted by a rich frieze architrave and cornice, and by a parapet or balustrade divided into twelve panels or compartments. The centre panel looking eastwards contains the armorial bearings of the burgh, namely, *gules*, three towers triple-towered, with a double tressure, flowered and counter-flowered, *argent*. The supporters are two leopards, and the motto is "Bon Accord." Towards the south, in succession, are quarter-length effigies in stone of James I., II., III., IV., and V.; the north side being decorated with portraits of Mary, James VI., Charles I. and II., and James VII.—in whose reign the building was completed. These figures are cut in high relief, and each panel is framed by an oval-shaped wreath. Projecting from the angles of the frieze are heads of bears and dogs, which serve to carry off the rain from the roof. The pillar which springs from the centre of the hexagon is a graceful column of one stone, about 13 ft. high, wreathed with thistles, and crowned by a Corinthian capital, on which is placed a unicorn of white marble, bearing on its breast a shield charged with the Lion of Scotland. The balustrade encloses a platform whence proclamations were wont to be made. Originally, the cross stood in front of the Tolbooth, and at the east end of an elevated pavement called "the Plainstanes," now removed. Formerly, too, the interior of the building was divided into four chambers which were occupied as hucksters' shops. But "the walls having fallen into decay, in 1821 orders were given for their repair, but they were found to be so ruinous that it was deemed necessary to take them down. This was effected without hurt to any part, except the large pillar, which, in spite of every precaution, was unfortunately broken. In the column which supported the roof, there was found a circular tank of hewn stone, with a feeding and discharging pipe of lead, which had been constructed, probably, for those great occasions when the throats of the bears and dogs were made to vomit wine for the gratification of the populace. The effigies and other ornaments having been carefully cleaned, the edifice was rebuilt; the fractured column was replaced in its position, and secured by an iron bolt, so that the injury which it received is scarcely visible." Subsequently to 1821, the cross served as the post-office—the Aberdonians were not then receiving 50,000 letters weekly. However, on its removal to its present and more convenient site in 1842, the arches were left open as they now appear. But there was an earlier cross in the "brave burgh" than this one. As in the case of the first Edinburgh Cross, however, very little is known concerning it. It was taken down in 1685, the year anterior to the erection of the existing structure, but the date of its foundation cannot be ascertained. It is said to have supported a platform, and we further learn from William Orem, Town Clerk of Aberdeen, who published an account of the burgh in 1728, that "there was engraven and cut out of stone at the top of this cross, on the south and north sides thereof, the picture of the blessed Virgin Mary, which was defaced at the Reformation; and below were the armorial coats of arms of the Kings of Scotland (they were effaced during the usurpation of Cromwell, but restored at the re-establishment of the monarchy). The crucifix on said cross was cut down in the time of the last troubles, anno 1640." At this period the town was held by the Covenanters, and it was not to be expected that they would tolerate so hateful a symbol as a crucifix. Although not possessing the same interest, historically, as the Cross of Edinburgh, the Aberdeen Cross is associated with many noteworthy events. It was long the appointed place for the punishment of evil doers, and certainly the Aberdeen magistrates cannot be accused of sparing the rod. The severity with which crimes were punished in the fifteenth, sixteenth, and seventeenth centuries in this country, seems monstrous and incredible to us living in the nineteenth century. From among the numerous entries in the council records of Aberdeen we select the following:—In 1588, two persons, convicted of adultery, were sentenced to be bound and exposed at the cross for the space of three hours; thereafter to be instantly "burnt with ane het iron on the cheikis," and to be banished for ever from the burgh. A female, guilty of the same crime in 1640, was ordained to be scourged at the cross, to be drawn in a cart through the streets, bearing a paper crown on her head, the bellman going before, and proclaiming her banishment from the city. On gala days and public festive occasions, very different scenes took place at the cross. The building was then hung with tapestry and banners, wine flowed abundantly from the mouths of the dogs and bears, the glasses in which the sovereign's health had been pledged were shivered, sweetmeats were cast among the populace, and the city resounded with the clang of trumpets and the discharge of fire-arms. Such was the nature of the rejoicings when Margaret, queen of James IV., visited the city in 1511; at the Restoration of Charles II., and on many other occasions. From this cross, in 1644, during the fierce wars of the Covenant, the Marquis of Argyll proclaimed a reward of 20,000*l.* to the person who should bring him the body of the great Montrose dead or alive. Montrose, it has been seen, was executed at the Edinburgh Cross six years, and his mortal enemy, Argyll, seventeen years afterwards. The author of the "Book of Bon Accord," quoting another town clerk of Aberdeen—the quaint gossip Spalding, from whom the well-known Spalding Club takes its name—narrates a strange affair that took place at the cross, in the year 1640, the town being then in possession of the Covenanters. A quarrel having occurred among some gentlemen who were escorting the Earl Marischal, governor of the city, towards Dunottar, the young laird of Tolquhoun was wounded in the head by George Lesly. His lordship instantly disarmed the culprit, and on the next day sent him in irons to Aberdeen, commanding the Provost to strike off his right hand for his breach of military discipline. The chief magistrate seems to have declined the execution of this order, and the Marischal proceeded to enforce it on his own authority. A small scaffold was erected at the cross, the axe and block were made ready, and a fire was kindled to heat the instrument for searing the severed stump. Lesly was then conducted from the Tolbooth, and descending the stair, amidst the lamentations of the crowd, laid his arm upon the block. The executioner prepared to give the stroke, when the Master of Forbes stepped forward, and taking Lesly by the hand, freely pardoned him, to the great joy of the people. The earl, adds Spalding, "did this for satisfying of young Tolquhoun; he had never mind to take the gentleman's hand, who was his own tenant, but only made a show, whereof, doubtless, the gentleman had certainly known, otherwise he would not have gone without more trouble." In more recent times (1763), a tragic event occurred at the present cross. At a convivial meeting in the New Inn—the hostel where Dr. Johnson put up, and which occupied the site of the present North of Scotland Bank, in Castle-street—two Aberdeenshire lairds, Leith, of Leithhall, and Abernethy, of Mayen, having quarrelled, retired to the cross to settle the dispute after the approved fashion of the time, by duel. The result was that Leith was shot dead, and his opponent, who was slightly wounded, fled to the Continent. On this cross have been proclaimed William and Mary, Anne, the four Georges, William IV., and Queen Victoria. The Chevalier St. George had the honour of being *twice* proclaimed under the title of James VIII., in 1715, and here also his unfortunate son, Prince Charles Stuart, was hailed king in 1745. The Jacobite cause found many of its warmest supporters, and ablest champions, among the canny Aberdonians; and "Bonny Prince Charlie," and Flora Macdonald, will long remain household words in the north of Scotland.

The market-cross of the fair city of Perth must have been a structure of considerable architectural pretensions. Alas! that we should have to speak of it in the past; but so it is. The Perth magistrates, gifted with no more taste than the generality of Scottish municipal corporations of a former generation, came to regard their cross as a sort of nuisance, and it was carted away as so much rubbish. The site of the cross was in the middle of the High-street, between the Kirkgate and the Skinnergate. The date of its erection has not been preserved; but, in the Session Records for 1578, there is the following reference to the cross:—"The Assembly requests the bailies to clear the cross, that the door may open and steik; and that they get a lock and key to the door; and, likewise, the Master of the Hospital to buy three locks for the three irons (jugs) where delinquents do penance at the cross." In 1652 it was demolished, and its material applied to the erection of a citadel by Cromwell, who, having turned cathedrals into stables was not likely to show more mercy to market-crosses, if his end could be served by their destruction. In 1668, after the Restoration, the town council contracted with Mr. Mylne, of Balforgie, "the King's Master Mason," to rebuild the cross, "and to make it as elegant as any in Scotland, for 200*l.*" They also wrote to the Lord Lyon for a licence to Charles Wilson to gild it with the royal arms and those of the town. In the following year the building was finished. It is described as being 12 ft. high, with a flight of steps within leading to a spacious terrace above. On the 29th of May, 1669, being the anniversary of the Restoration, the treasurer was appointed to cover the "terrass" of the cross with a carpet, and to prepare glasses and two gallons (Scots) of French wine, to be run out of the mouths of the lions, bears, and griffins, and other heads with which the cross was ornamented. The cross remained unmolested until 1765. In that year, however, the "worthy bailies" took it into their tasteless heads that the sacred relic was an obstruction to the street, and they condemned it accordingly. Its sad fate is soon told. Shortly afterwards the cross was put up at public auction, and knocked down (literally) for 5*l.* to a mason, who was the highest bidder! He immediately took down the cross and carried off the stones. Who was this purchaser,—and are the stones past recovery? The question, we think, is not an irrelevant one, now that there are indications of a movement in Scotland, as well as in England, for the restoration of market and memorial crosses. More hereafter.

RESPONSIBILITY *versus* EFFICIENCY.

WANTED, A MARKET FOR INDIA.

AN invitation which has recently appeared in our advertising columns, calling on architects to send in competitive designs for a market to be erected at Bombay, asks for more grave and serious consideration than so simple an announcement would at first appear to be calculated to call forth.

We are not about to re-open the vexed question of the propriety of a response to such invitations on the part of architects. The members of that profession possess more than ordinary consultative facilities, and, if they come to the conclusion that competitive production of designs entails a heavy tax on those who are the least able to bear it, and that character is sacrificed to chance, they have the means of common action on the subject. If, on the other hand, there be those who feel that a road, however precarious and expensive, may thus be opened to unfriended talent, we would be far from wishing to stand in the way of even the merest chance of success for the youthful practitioner. Again, we are not about to enforce any unasked advice on those who may consider it prudent to trust to chance rather than to established reputation, and to follow a course as to the erection of their dwellings that they would never dream of with reference to the conduct of a law-suit, or the removal of a malady. So long as architects, and those who employ them, are content to stand on a footing known in no other profession, it is not for us to interfere between them, even if our private opinion should be adverse.

But the case to which we have alluded involves a particular question. In our national character we claim a prescriptive privilege to blunder to a certain extent. We have, if we do not deceive ourselves in our glances at our neighbours, got on pretty well notwithstanding; but it can hardly be denied that we not unfrequently show ourselves to be true descendants of a race that were ruled by Ethelred the Unready. It may be that a certain amount of embarrassment, or even a certain quantity of drubbing, is necessary to heat the English genius to that temperature at which it works with the greatest facility, and that when some of our neighbours are beaten we are but beginning our work. Which of our great public enterprises has not passed through its phase of difficulty, if not of disaster?

But while we are pretty well accustomed to

this kind of thing at home, and finally triumph over, if not through, our earlier blunders, the case is widely different when the scene of our tentative practice is laid at thousands of miles' distance, in the colonies or in India. In the face of a population of other blood and other manners than our own, of people who believe in success, and over whom our hold is rather a moral than a physical one, we cannot afford to blunder. The steady and uninterrupted conduct of Indian or colonial enterprise is necessary to keep up a prestige that has been but too rudely shaken in opposite portions of her Majesty's dominions; and however great our wealth, and undaunted our pluck, it is more on our prestige than on either of the before-named qualities that a foreign empire over a sixth of the human race must mainly depend.

Now, in calling for a competition for public works, to be executed under the peculiar and exceptional conditions that attend the climate and the population of Bombay, from professional men, in no way specially qualified by their local knowledge to meet the difficulties of the case, either injustice is done to the competitors, or the seeds of ill success are carefully sown. Those architects who, in obedience to the invitation in question, have written for particulars, have received a paper of instructions admirably drawn up so as to supplement local knowledge, but of course insufficient to replace it, and a plan which, from the misplacement of the north point, would involve every one who goes to work upon it in utter waste of time; while the ratio between the sum estimated for the work and the area to be covered is altogether inadequate to our European experience, to say nothing of the greatly-increased cost of such buildings in India.

Now those of us who have any experience of the two very distinct sources of difficulty that attend the construction of iron building in India, that is to say the due provision for the exigencies of a climate so unlike our own, and the fact that the operations have to be completed at the distance of a four months' voyage from the spot where they are commenced and to a great extent carried out, will agree, that it is only by adopting one of two methods that any rational expectation of success can be entertained. Either the work must be placed in the hands of a responsible contractor, of Indian experience, who will become materially responsible for its completion within the time and on the terms agreed on, or professional responsibility of an unusual kind must be incurred in order to avoid those causes of certain delay that will arise from the countless details of a work paid for and shipped in England, but for the erection of which the shippers are not themselves liable. It is hard enough for those who are preparing for their own work, and who have every inducement to care for those preparatory details on which, at the last moment, so much depends, to avoid errors and omissions in the sending from the manufactory of ironwork intended for erection in this country. Put the moment of detection of error off for four months, and how vastly is the immunity for a slight carelessness increased; how much more likely is its occurrence, and what are the results? One lost or mis-directed package, containing, it may be, a large number of small castings for one peculiar and often-repeated portion of the building, might prevent the roofing in, or the completion of a gable, till the setting in of the monsoon; that is to say, until the occurrence of weather that would be pretty sure to make a clean sweep of a large unfinished building.

Personal responsibility, therefore, whether materially, on the part of the contractor, or professionally, on the part of the engineer who has the iron-work shipped in this country in a state fit for instant and perfect service in India, supposing the further responsibility of the erection to be taken by the engineer on the spot, is absolutely necessary to prevent disastrous failure in the attempt to erect large iron buildings in that country. And it is hardly necessary to add that such responsibility is not likely to be forthcoming in reply to an advertisement for competitive designs.

That public officers should have adopted this course is not surprising. It may have been prompted in a great measure by the desire of the officers in question to keep their hands perfectly clear of any suspicion of a job, of favour, or of partiality, and, above all things, to avoid responsibility. The nervous morbid dread of responsibility that characterises our civil as well as our military services, has attained such intensity as to be really a national misfortune. How much of the earlier mishaps in the Crimea may be traced to this source? Nor have recent and well-known events tended to diminish the evil. Rather, it is to be feared, will they increase it ten-fold.

An Englishman in trouble abroad may often be heard to wish that he were, for the moment at least, a Frenchman or an American. In that case, the vivid national feeling of the diplomatic or consular agent to whom he applies for support is at once enlisted in his favour. While the English official, who may be, and often is, personally, the kindest and ablest of men, fit to deal with the case, and really desirous of doing so, is so hampered by fear of official responsibility that time goes by until wrong becomes irremediable. The Frenchman or the American, conscious that even an excess of duty in defence of the National Flag and of those who take shelter under it will meet with full sympathy at home, attacks the difficulty with promptitude, and usually with success.

It is not that in all cases we would hold up the prompt and self-reliant action of other national representatives for the exact imitation of our own. Extremes are to be avoided, but the extreme which leads a brave and able man to become a cypher in nine out of ten of the cases to which he is appointed to attend, from dread of responsibility, is one which is very fatal at all events to private interests, and has done, and is daily doing, very much to diminish the due influence of Great Britain abroad.

The extent to which brave and able men may be cowed by this fear of responsibility will hardly be credited by those who are not familiar with the circumstances under which the mischievous influence has full play. An instance may be cited that can never be forgotten by those who happened to witness its occurrence. Nearly twenty years ago, a serious and fatal accident occurred on a newly opened line of railway. A girder bridge, of what was then considered wide span, broke down with a passenger train, and precipitated the carriages into the river across which it was intended to carry them. An inquest was held near the spot, and the chief interest of the inquiry centred in the evidence of the eminent engineer of the line, and of the Government inspector, who had recently reported that it was fit for traffic. The engineer, though pallid, and evidently suffering great anxiety, was fully equal to the situation. The legal adviser of the company, instead of taking up the unassailable position that science had effected all that her experience allowed, and that a wider and, in this instance, an unhappy experience showed that the rules hitherto followed by the ablest men of the profession required revision when applied to cases of exceptional magnitude, took the course of attempting to show that the accident ought not to have occurred. In fact, the case which he made out, as he was afterwards told, needed only one additional witness to make it triumph, namely, the witness who should have proved that the bridge did *not* break. Still, under examination and cross-examination, and placed in a position so far from being his own choice, the civil engineer held his own. But the case was very different with regard to the military official of the Government. Personally this officer was brave to absolute fearlessness. It was told of him that on one occasion he was wounded by a bayonet, while engaged in marking out a trench, and that he turned and killed his assailant with the spade which he had in his hand. On another occasion, while in a diving-bell with an engineer officer, the tackle got out of order, the signals became useless, and the water rose, slowly and steadily to the knees, to the waist, to the breast, when the bell was happily raised without this officer having betrayed, by look, by tone, or by suspension of conversation, the least symptom that anything unusual was taking place. And yet this brave man, under dread of answering the question of how he came to consider a bridge to be safe that so soon broke down, trembled like a school-girl, and could hardly articulate his carefully conned speech to the coroner. So true is it that the due acceptance of responsibility requires a rare and peculiar description of courage.

It is courage of this kind that is needed for the fit discharge of the duties of those to whom is intrusted the conduct of important and novel works in our colonial possessions. It is not by the opening the door to every caller, and by reliance on the chapter of accidents, provided only that the onus of choice is shifted from their shoulders, that such duty can be performed. A degree of sound practical sense, and of the application to public life of the principles that regulate private action, is more necessary than the morbid thinness of skin that will sacrifice the service rather than run the risk of being called on for an explanation. For a difficult and important piece of business of his own, any man in his senses selects the person that, in his own experience, or as far as his information goes, he believes to be the most reliable of whom he can avail himself. To him, after due consultation and with proper caution, he will commit the task. Thus treated and encouraged, the skill and enterprise known to exist amongst us will succeed as surely in Calcutta or in Bombay as in Hyde Park or in Sydenham. But let Indian officers attempt to deal with such matters as if they were as simple as the erection of a third-class railway station in the heart of an iron district, and delay, expense, and misfortune will be the inevitable results.

BUILDINGS IN THE CITY OF REIMS.

THE city of Reims may be compared with London in the fortune that has assigned to it a cathedral, unrivalled like St. Paul's for grandeur of exterior architecture, and an Abbey church, St. Remi, that, like Westminster Abbey, is in some most important respects unrivalled for the proportions of its interior. That supreme effect both of interior and of exterior should be united in the same great building is a coincidence the world has yet to wait for. Even as regards the Greek buildings—the Parthenon, for instance,—we are still at a loss, and likely to be, to conjecture how the architect vindicated in the design of the interior the nobleness of style that we can still in the midst of ruin appreciate without. The architects of old, who so readily admitted that the human body was the archetype of all perfect architecture, would, no doubt, have allowed in virtue of the necessary analogy,—that the perfection of interior and exterior are perfectly compatible,—that the best excellence of one in no way necessitates the sacrifice of the other; nay, that he could not be a really accomplished architect who should fail to harmonize the two; just as the Platonic Socrates laid it down as an axiom, to be approved in the case of Shakspeare ages afterwards, that to be a perfect comic poet implied of necessity the capacity of tragic inspiration also.

At Reims, however, the divorce of the two systems is accidental; and there is this curious parallelism of the two instances, that the lauded sections of the architecture of both cathedral and church, are secondary to the foundation, and superinduced upon older work.

St. Remi is a round-arched church, which, by modified details and new vaulting, has been turned into an interior of general Pointed character, and of the nobleness ascribed. The Cathedral of Notre Dame, of Reims, in its main extent, is a homogeneous structure, that belongs, both in time and style, to the noble group of Amiens, Paris, and Beauvais, but with most approximation to the cathedral of Paris. The much-renowned portail and the general decorative features of the façade, to say nothing of the flanks, are of later date,—are applied, wondrously articulated, no doubt, but still applied and put on, as much as the porch at Peterborough is set upon a Norman nave and aisles behind it.

As regards the interior of Reims, then, I confess that it did not greatly interest or move me, though commending itself more to the sensibilities than the interior of Châlons. It is an enormous work, carried out with the uniformity that indicates its rapid and unintermitted advance in course of building.

The mighty piers of the nave are of the type of a central Corinthoid cylinder, with four smaller axials attached, and with about three-quarters of their circumference disengaged. These smaller ones are all of the same size, and not so large that the blank surface of central pier has not good predominance. It is not at Reims that Gothic can be called the architecture of small stones. In these piers the horizontal joints pass quite round, and no vertical are visible at all. These may be, no doubt, and probably are, hidden in the re-entering angles; but even so, the height of many of the courses is voucher for a very large stone indeed. Both material and workmanship are excellent.

The grouped capitals have a common polygonal abacus and a common astragal; but the smaller have a distinct necking, which empha-

sizes their limited independence. The successive capitals east and west are usually varied in detail and character, while the opposite capitals, north and south, have very marked agreement always, and sometimes are exactly alike.

The piers of the choir are simple cylinders or Corinthoids, with a small shaft attached to the front only. Piers exactly like those of the nave are continued as aisle columns round the apse, and are attached to the wall at the division of the chapels,—the result being a lack of features of intermediate gradation to assist the sense of scale. The mouldings of the bases and plinths are drawn with a boldness that harmonizes well with their magnitude.

We may spare to describe in detail the columnar and vaulting system of the aisles; but be the note recorded here that applies to many other of the French cathedrals, that there is a want of consistency, as well as harmony, in the combination of much more elaborate and numerous shafts and archivolts in the aisle than appear in the more important nave. This difficulty was admirably countervailed in the completed Gothic by the grouped cluster of nave face-shafts.

Again, it seems to reverse the due sequence of subordination, that not only the direct aisle arches, but the nave arches also, should be stilted to bring them up to a height determined by the unstilted but still pointed diagonal ribs of the aisles.

A vaulting shaft above the abacus answers to the shaft engaged in front of the pier; and two smaller shafts, one on either side of it, rise likewise from bases that rest on the general abacus; and all have a common capital at the spring of arch, where they send off the direct and diagonal ribs of quadripartite vaulting. Still two other shafts, exterior to these, run up beside and beyond them, to carry mouldings for the nooks formed by wall of clerestory and the side of the groin.

The transept piers, which are larger, have intermediate shafts attached, that rise up clear from base to spring of arch,—a wonderful advance upon the clumsily-contrived and piled-up mouldings of the transept piers of Notre Dame at Paris, but still no more than had been done in English Round-arch architecture, and an arrangement that still hesitated to assert itself in the nave-piers.

The robustness of the nave piers is quite as much out of keeping with the lightness of the clerestory windows and lofty proportions of the nave section as with the aisle enrichments; and their broad plain surfaces are so predominant as to convey an effect of tameness and barenness out of harmony with the elaborate ornament of painted windows and variegated tapestry, but consenting, unfortunately, with a general lack of variety and play.

The nave is lofty absolutely and proportionately, namely, about three times its breadth, which is 38 ft. Amiens, which has the same breadth, is some 12 ft. higher. There was no need for further exaggeration. Even at Reims the sense of narrowness is most painful. The nave walls seem closing in upon one, and bring back to mind the narrowest passage of the cleft rock of the Via Mala. This ambition for loftiness defeats its own ends conspicuously in a nave designed to acquire glory from painted glass in the clerestories, which can only be seen from below, miserably if not unintelligibly foreshortened. The triforium at Reims was not accessible at our visit; but at Amiens the opportunity was given for observing from the gallery the vastly improved effect of the architecture from a level nearer to the vault. Had this gallery really been designed for a place of dignified occupation during the sacred ceremonies, much of the incongruity would vanish; but here, as elsewhere so often, the triforium elevation to the nave, however elaborately enriched, does but screen a run for rats,—either a mere narrow gallery of passage, or a loft never intended to be made into an apartment. Even at Westminster, where the external windows indicate some reference to occupation, the interior shows too clearly that no care or thought was taken for finished elegance or even convenience.

The great glory, then, of this cathedral is the exterior,—the west front, especially; though the other sides have their special and peculiar merits, and support the general effect of dignified proportion. It is time that careful note were taken of all original indications of the stages by which this effect was reached, for the problem will become more difficult daily. What we saw of the progress of restorations did not encourage faith, either in conscientiousness or taste, and obliterations of masonic evidence take place too easily. Perforated parapets are superseding solid at the eastern end; a bold line of turrets is being introduced, for which no precedent is apparent; and fresh-caught spread-eagles from military ensigns of Rome are mounting to the place of pride of the Gallic fowl, of which, however, they seem likely enough to emulate the crow.

On careful examination we may still,—we may at present, trace the joinings of the original and the superadded work all round. The cathedral has received an entirely new,—that is, secondary face,—according to a design of which the towers, so far as they are completed, form a part, while the side aspects have been brought into harmony by the addition of characteristic pinnacles, statues, and parapet, as well as by the refacing of the transept porches.

The flank view, after all that has been done, is in one respect not happy; the projecting buttresses and their pinnacles jostle the short transept very undesirably, and hide a full half of its only window.

The plain and original buttresses of the sides have a cornice ranging with the top of the aisle windows, which is returned and runs round the building. Above this the buttress is continued; first by a tall base or pedestal, shafted at angles, and with a shafted pointed arch in relief on the sides; this supports a niche, formed by a back of solid buttress carried up behind and in front by two free Corinthiesque shafts at the angles, with pointed trefoil arch in front, and others at the sides, where they are met by angle-shafts against the buttress-back. The square top of this niche is canopied by an octagonal pinnacle and four small pinnacles, apparently triangular on plan, and occupying the vacant angles.

In the old work the three divisions of niche, pinnacle, and basis seem to have been equal; in the new, the architect availed himself of the new-found principle of giving one division a proportionate preponderance, applied at Paris and Sens as distinctly as at Winchester, and gave increased height to the niche.

The vaulted recess of each niche houses a statue,—on the south side of which a winged angel stands on a pedestal with shafted angles, of such height as to spare the sculptor a painful elongation of the figure.

We see on the south side that the open niche was a development of the earlier member in which the plain buttress runs up a second stage, with round arches in place of pointed trefoils.

Round the exterior of the apse and the south transept the buttresses have drips of bold projection, with foliage, well relieved, running round the upper angles of two stages above the slope sheds, and both continued upon the body of the building; the lower one forming the cornice of the wall above the aisle windows, and the upper one a stringcourse under those of the clerestory.

In the altered buttress of the south side of the nave, the artist has subordinated the lower cornice on the buttress by leaving the drip moulding, but dressing off the deep course of foliage below without remorse, to the level face of the wall. There is the greatest advantage in this. The pair of strong and equal horizontal lines so near each other cut out a flat horizontal form that contested in importance with the not unlike though vertical form of the buttress. By reducing the lower cornice, the independence of this division was subverted, and the predominance of verticality in the leading lines of the buttress was secured at once.

This change is traceable clear round to the front of the building, where the new work of the façade supervenes with other and far more important modifications.

The composition of the front may be divided into the stages or stories of the porches and the rose window below, and the range of niches with kings and the pair of towers above.

Norman, Lombard, Rhenish churches had already adopted and elaborated recessed porches and rose windows. Here they are translated into the new fashion, and receive the last and the highest enrichments. The architect is no longer satisfied with the depth of porch to be commanded by taking advantage of the thickness of the tower-wall, as in Norman; or even of the additional depth given by the ordinary projecting buttress; but he advances the portico in front of the building,—as did, indeed, the Lombard builders, but here with closer and more organic connexion.

The union is most excellently managed. The applied porch is so set on that the eye is satisfied with the relation of the façade above and the flat wall face visible within the portals. With the resolute design to effect a noble concavity, the architect has still observed such a temperance of projection that the buttresses of the front that mark the angles of the towers blend into a common mass with the advanced supports of the vaulted entrance.

The receding arcuation has scarcely the charm of Troyes; but the gradation of proportion between the central and side porches, and between the span of the latter and the solid breadth of the buttresses adjoining, is very good indeed.

We shall only do ourselves and architecture harm, however, if we shirk recognizing the fact that the stiff large statues against the jambs, however good in intention, are in themselves, and as they exist, either offensive or ludicrous. Here and there, there is a natural expression or a happy turn of drapery that a man of genius might transmute into beauty; but as they stand they can only be taken, if we are to accept them at all, as types or symbols of good things that ought to be, but for the present are not.

Again, the Gothic architect never stumbled more seriously than in essays to join on an upper to a lower design with satisfactory coherency; and the ordination of the jambs and canopies of these porches conspicuously illustrate the failure. Is it to consider too curiously to note these lapses? We leave it to those who have less respectful appreciation for Gothic architecture, to appeal to indulgence for shortcomings that it might and must, if its dignity is to be preserved, admit and grapple with.

The alternated shrined and foliated arcuations of the recesses descending on the jambs have there the junction covered by a row of shrine-heads, which return in full proportions round the front of the central jambs, but fall back into relief on the front and outer sides of the external buttresses.

This stringcourse-like series, in itself very elegant, has great value in uniting the arches at their spring. But mark the ensuing misfit. Below this shed stand the rows of large figures which it is impossible to dissociate from a reference to the sheltering canopies and the rows of larger and smaller shafts answering thereto. But two canopies fall irregularly to a single figure, which is, consequently, thrown forward, instead of being fitted with a recess. At the turn of the diagonal jamb to the straight of the front buttress there is a new difficulty. On the broader sides there is too much room for one statue and not enough for two, and the occupant stands comfortless in a miserable blank; in the other cases there is not room for even one; so a still more distressing blank is left; while in front of the buttresses room is obtained for three, but only by close crowding in a fashion most uncomfortable.

To proceed with our indictment while courage is at full tension; architects never paid more dearly for a bad system than the Goths for the extravagant height they gave to their roof shields and roof ridges. In the management of the roof generally they were false to their own great principle, which was,—not what we have listened to too long and too indulgently, to ornament construction; but to emphasize function by ornament expressive of a construction appropriate to function. The slope of the roof expresses the function of throwing off the discharge of storms; but the parapet at its foot contradicts the expression as distinctly as the function, by appearing planned to confine the storm waters or the sliding snow just where they will be most harmful. Another all-important function of securing the bond of external supporting wall and the load of the roof, is to all appearance not merely ill-discharged, but neglected entirely.

Again, the mighty roof which asserts itself so imposingly above the proper structure must be occupied to some extent by the vault of the church or contain a distinct apartment, or be a timber-crowded darkling loft. In some of our English cathedrals an upper window at the end simulates a true apartment, which may be consistent or convenient, but has no ostensible purpose or appropriate dignity. We may more tenderly favour an attempt to hide the error by a single large window that covers all without, yet does not betray the artifice within. But even so, the escape from a suggestion of an exaggerated garret barely lighted from one end, and with sides at uncongenial slope for erect walking man, is only exchanged for the exhibition of inconsistency between the abundant provision for admitting light at the sides into

the lower portion of the implied apartment, and the utter disregard of the obligation at the upper part, where is its most appropriate entrance.

If the tall roof be all roof, it is clumsy; if it contain an apartment, it is but a dark, and worse, an undignified one; and if it be occupied in fair proportion by the nave vault, the occupation is unexpressed without, and allegiance to the light of day is repudiated where it is most incumbent.

These incongruities infest the practice but are by no means inherent in the principle of Gothic architecture. Quite otherwise, indeed, as no doubt will be shown one day, when independent genius arises to deal fully with its hitherto only half evolved resources.

The mischief tells very detrimentally on the treatment of western fronts, where this dead block has to be confessed, or palliated or concealed. We have now to deal with the embarrassments of the last way of evasion. At Paris we see the offensive triangle peering through the lines of the arcade between the towers, which seems fain to hide it, if not designed to do so, but fails either way. Amiens, also, is in as evil case. At Reims, the designer of the front elects to screen the roof as far as he can, and admit only what he must; and to what does not the dilemma reduce him in derogation of his noble conception?

Above the rose window and its including arch he continues from tower to tower, on either side, a masking wall with a gallery of shallow niches in which a series of crowned kings are housed, most of them having to stand flat enough. Still a little central gable has to be added before the peering roof-point. The grand mischief, however, lies herein, that the wall of kings, being imperforate, gives heaviness to the centre of the top of the composition, where heaviness is out of place, and running on to join the stories of the towers vitiates the freedom of base required to give full effect to their height, outline, and the transitional movement to the completing spire above. This is the same mischief and misery that afflict the design of Strasburg, and would be much more pronounced here were the spires, of which we just see the commencing slant, completed.

Still the architect has nobly fought his difficulty, and his design might be completed without fear. Even as it stands, no other Gothic western front can compare with it in the dignity of balanced repose and vivacity, for an instant. The quadrate subdivisions of the earlier design, of which we may recover the impression from Notre Dame, at Paris, are most skilfully broken up into details of which the loftiness ever exceeds the breadth, and ever the more as the elevation rises.

The common elements of the design, which are in loose disorderly arrangement at Amiens, are here condensed and massed, and simplified; and we have only to turn to the western towers in progress at Cologne to appreciate the value of that balance of sobriety and fancy, of allegiance to principles along with indulgence of invention, that justify preference for the vigorous grace that results from co-operation of two consenting centuries at Reims.

The niches with statues and pinnacled, that decorate the flank buttresses, are continued at the same level on the four western and side angular buttresses of the towers, with the happiest effect.

The statues serve to connect the sculptural series of the apostles and saints in the porches with the galleried kings above; and the pinnacled niches which, as we have seen, are developments of the earlier design, introduce the new and ampler and full development in the towers above. The towers, like the niches, were to be crowned by a pinnacle spire, now probably perforated, on an octagon base, and again, four smaller pinnacles would cover four sides,—smaller sides, of the octagon; but instead of rising on the angles of a square cut off by an interior octagon, and above a single shaft at the angle, they surmount a hexagon which covers one side of the octagonal belfry of the tower, the proper base of the spire, and forms a grand niche with four free shafts and five foliated openings. But space warns to conclude, and with one more note we make an end.

The nave vault has been painted blue with stars, and is ineffective, the clerestory windows and western rose full of painted glass, giving colours that reduce all others associated with surfaces of inferior texture, to inevitable commonness.

AN INQUIRY AS TO THE BEST PLAN FOR THE NATURAL HISTORY MUSEUM, SOUTH KENSINGTON.

DISCUSSION of this subject is not undesirable, opinion being still unsettled amongst those interested. The following paper goes, it will be seen, to support the late Captain Fowke's plan, published, together with his own views on the subject, in our volume for 1864 (xxii.), pp. 393, 394, 395. In the same volume, pp. 473, 474, 475, is given the plan to which the second premium was awarded (founded on the "model" plan submitted to the competitors), together with the author's own statement of *his* views. In a previous part of the same volume (p. 289, p. 305, &c.), both designs and the principles involved are fully reviewed. Our own inclination to parallel galleries placed transversely to a longitudinal hall or corridor, with spaces between for light and air, is of an earlier date than that of the "model" plan.

The plan of a building to hold a national collection of objects like stuffed animals and geological specimens is one that taxes the ingenuity of the architect in providing for its economical and administrative arrangements in no small degree. The articles to be exhibited are of all sizes, of every variety of form, and of the greatest divergence of character; they must be arranged so as to be equally available to the cursory view of the many, passing through the rooms quickly and in great numbers, and to the close examination of the few scientific. The greatest possible amount of direct daylight is indispensable to fulfil the legitimate object of having such a collection; and yet any glare or dazzling reflection which would interfere with the clear display of the peculiarities of the articles, is particularly to be avoided.

Considering the large number of museums existing in Europe, it would be supposed that the best proportion and arrangement of building for the purpose was fixed with tolerable precision; it is evident, however, from what has transpired concerning the competitive designs for this particular building that such is not the case, and that, on the contrary, although probably no person would dispute the general principles above stated, there is a marked divergence of opinion as to the best mode of carrying them into practice. It seems, therefore, desirable to investigate the subject more particularly, and to ascertain, if possible, how far these differences may be due to specialities of subject, or to peculiar local conditions of climate or building, or to the influence of habit; and the time is particularly opportune for such discussion, as the building under consideration will probably be the largest museum of its kind in the world, and one which will no doubt form a model for others for the same purposes in this and other countries.

The classes of objects which are intended to be included in this building, and which may properly be assembled in one general group in any similar building or institution, are the following:—1. Zoology; 2. Geology; 3. Mineralogy. The two following may be considered as belonging to the great group of what are sometimes called the natural sciences; and though not forming part of the scheme under discussion, would no doubt be included in many projects for such institutions, namely;—4. Chemistry; 5. Botany.

In providing space for a national collection of articles connected with these classes, it is most necessary to keep distinctly in view the two chief and different purposes for which such collections are made; that is to say,—1. The benefit of the general public; 2. The education of students of the different classes. The inspection of such collections is to some extent an education of the people at large, but only of a general and indirect character, requiring the exhibition merely of special articles of new or peculiar interest, arranged with regard very much to effective general view and facility of passage. For this purpose, only, large and lofty halls with a good general light are most convenient; and there is no advantage, nay, even possibly, a disadvantage, in assembling a vast number of objects together in such rooms, whose variety and multitude fatigue the eye and overburden the mind of the ordinary spectator. It is probable that a judicious selection of articles well grouped would do more to educate the uninitiated many, than what appears to them to be the endless succession of closely-filled cases in the present rooms of the British Museum. For the student, however, this arrangement would be quite ineffective: both the casual scientific visitor who spends a few days in the rooms, and the regular student who goes through a course of systematic study, require narrow galleries with close clear light pouring on the cases, in which they can follow out their researches with order and quiet; and, in addition, if these institutions are to be made thoroughly effective as educational establishments, class-rooms, private study rooms, laboratories, and workshops would be required.

The whole of the objects included under the above-mentioned classes may be divided into three heads, for purposes of exhibition:—1. Wall or vertical cases; 2. Table or horizontal cases; 3. Large general cases. The first would take in the great bulk of the zoological collection, and part of the geological and botanical collections; the second would take in the bulk of the geological and mineralogical and chemical collections; the third would be for large and special objects and groups. It might be a question in an entirely new institution how far the tables might be dispensed with, and a modification of vertical cases substituted for them, similar to some used at South Kensington Museum, and which might be placed in the centre of the room, under a vertical light, and so to very much dispense with both the present style of wall-case and table-case. But for the building under discussion this question is to a great extent decided beforehand, by the fact of the existence in the British Museum of a large number of cases expressly and elaborately made for the exhibition of the articles in that building, and which it would be unwise and extravagant to discard altogether. These consist for the most part of wall or vertical cases, the average dimensions of which may be taken to be 10 ft. high and 2 ft. 4 in. deep, and of indefinite length; and table or horizontal cases of an average length of 7 ft. 8 in., and width of 4½ ft. In these two classes of cases the bulk of the collections would be deposited. The exceptional cases for special objects and groups are of very various forms and sizes: probably one of the largest required, excluding such objects as whales and paleontals, which would not be in glass cases, would be that for the group of gorillas, about 8 ft. square and 10 ft. high. Above that area the specimens would not be well seen.

The great bulk of the collections in point of numbers being in these two kinds of cases for the students, and not for the general public, the most effective and economical arrangement of them would be in long, narrow galleries parallel to each other, and connected by a common corridor at one end. These galleries should be wide enough only to afford space for a row of vertical cases against each wall, and one row of horizontal cases in the middle, with two broad passages for visitors. For the purpose of systematic examination any addition to the width beyond this is injurious: it amounts simply to placing two or more such galleries together without the advantage of the order and quiet of the one alone. Those who frequented any of the great international exhibitions will fully appreciate this maxim; who recollect, after being tossed in the cross open sea of some vast English class, from stall to stall, each the counterpart of the last, with an aimless and bewildered course, what a relief it was to glide into the sheltered and calm haven of some little foreign court, in which the compactness of the area, and the systematic arrangement of the things, gave more instruction and pleasure in a few minutes than a long, laborious traverse through the other. A width of from 20 ft. to 25 ft. is all that is necessary for this: the former width hardly allows sufficient space for passages. The central passages in the British Museum galleries are about 8 ft. wide; the side passages, about 4½ ft. A width of 5 ft. is not sufficient to enable a spectator to examine with ease the upper part of a case 10 ft. high; and it is not convenient to stand in the passage on the opposite side for the purpose. On the other hand, the smaller width allows of an addition of one such gallery for about every 250 ft. of general frontage, as compared with the 25 ft. The efficiency of narrow galleries will occur to every one who has visited such institutions. It is only necessary to mention the small picture galleries in the International Exhibition of 1862, and the Museum of Curiosities at Dresden, and especially the smaller galleries in the British Museum, which are between 20 ft. and 25 ft., as compared with those of 40 ft. in

width. Of these we shall have to speak again in considering the necessity of reducing the width in rooms lighted from the sides only.

The next point is the necessity of building in two stories. This is not so much a question of efficiency as of economy. All persons would, no doubt, prefer a roof-light for such purposes, or, at least, a combination of roof and side light; but that would involve the occupation of a larger area than is generally available for these objects in great cities, and, in the particular building we are considering, the limited area necessitates the employment of two stories to obtain the floor-space required. There is, also, a certain convenience in being able to separate some branches of the establishment more completely from others, by having two stories.

But this renders it still more necessary to keep down the widths of the rooms. Those who, on an ordinary winter's day, have happened to visit in succession such rooms as the small exhibition picture gallery and the King's library in the British Museum, will be able to judge of the extensive loss of light, in a room about 45 ft. wide and 25 ft. high, lighted from the upper half of the side walls, with window-space equal to about one-third of the wall-space, as compared with the same proportion of roof-light in a small gallery. It is not only the difference between roof-light and side-light: in the former, it is the height of the room only which diminishes the quantity of light; in the latter case, an increase to the width of the room diminishes the effect of the light, and increases the space in shadow; and it is the extent of shadow-space that chiefly reduces the effective light in a room.

This is still more apparent in considering the whole question of lighting such galleries. The light, whether roof or side light, should be so arranged that it shall not be directly in the face of the spectator, nor be reflected directly to his eyes from the glass of the cases. In roof-light the latter consideration necessitates loftier rooms than is otherwise desirable, in order that the reflection from the least inclined ray of light shall fall below the spectator's eye, when standing in the most convenient spot for seeing. In side-lighted rooms, the spectator has always one window directly in his face, and unless the windows are very high, the effect of the direct light dazzles his eyes and throws the cases under or between the windows into the shade; and the room must be very narrow and high to prevent the reflected light from the cases meeting the eye of the spectator wherever he may be standing. Thus, in both roof-lighted and side-lighted rooms, an increase of height diminishes the effective lighting of the room in one respect: the broad galleries in the British Museum have a greater proportion of roof-light than the narrow galleries, but owing partly to their greater height the lighting of them is not so effective. But again, in side-lighted rooms, an increase in width requires an increase in height to provide an equal amount of light, and also an increase in the interval apart of the rows of buildings, in order that the same amount of direct light may fall on the cases. The minimum limit for this latter interval is determined by drawing a line from the top of a wall-case through the upper edge of the opposite window, and which should clear the roof of the next row of galleries. And as the purposes of exhibition require a height of not more than 15 ft., it follows that, for economy of expense and administration, that arrangement of rooms will be the best which for lighting purposes requires the least height above 15 ft.

Recapitulating now these several data for determining the best normal plan of museum, it appears that for all the requirements of such an institution, administration and construction, for convenience of arranging and exhibiting specimens, for economy of construction, and for effective lighting, the bulk of the collection should be in rows of galleries about 20 ft. wide, in two stories, the height of each of which shall be as little above 15 ft. as the exigencies of lighting will permit; and placed at such intervals as will, in the ground floor, allow a direct ray of skylight to fall on the top of a vertical case through the opposite window.

We have still to provide for the large and special articles selected for the brief gratification of the general public, and which, as before stated, would be most advantageously placed in large lofty halls. The most obvious mode of combining such rooms with the narrow galleries desirable for the majority of the articles, would be to do that at once, and as part of the design, which would inevitably be done at some future time, when the accumulation of articles pressed on space; namely, to roof over the spaces between the galleries with glass. And here, the arguments of Captain Fowke himself may be quoted in support of doing this on principle which might at first appear to be only an expedient.

He says that the result of his experience (which had been considerable) in dealing with a large area for exhibition purposes, is to cover the whole of it; and among other arguments in support of this idea, he adduces the two following weighty ones;—1st, that the temperature can be kept more regular and more under control; 2nd, that the narrow galleries can be placed further apart, and so an increase of light without loss of space is gained. And, as in the plan issued by the trustees of the British Museum to guide the competing architects the whole area is covered, the authority of their experience on that point appears to be in favour of Captain Fowke's principle.

The normal idea we have now arrived at analytically for rooms for the collections of a Natural History Museum, is almost exactly that proposed by Captain Fowke, in his prize design. He had given him for the whole establishment a rectangular space, measuring roughly, 1,200 ft. by 700 ft.; for the collection now existing in the British Museum, and for future extension of the same he provides a line of buildings extending the whole length of the site, and consisting of rows of galleries at right angles to the general line of building, about 20 ft. wide and 160 ft. long, and two stories high, divided by spaces 40 ft. wide, which spaces are roofed partially with glass, and necessarily of the height of both stories.

This great block of building is divided in its centre by a lecture theatre, and is connected by corridors extending along each end of the rooms for the whole length of the block: the corridor on one side is intended for the public, and is 40 ft. wide; that on the other side is a narrower one, and is intended for communication with the offices and other more private rooms of the establishment, which are ranged all along that side of the block. Such are the main features of the design as far as relates to the special objects of a Natural History Museum. The other parts of the whole design extending towards the main front of the building, the centre block, with its circular hall, covered by the admirable dome, and the flanking blocks, though all forming architecturally parts of the whole design, are accessories for collateral purposes to the more immediate objects of the building, and it is with these last that we are at present concerned, and which afford so good a study.

Captain Fowke, however, has by a bold arrangement, characteristic of his practical genius, improved greatly on the normal idea above projected. He has taken away the walls of the lower stories of the narrow galleries, replacing them with columns, and placed a partition-wall down the centre of each lower gallery, thus dividing it into two galleries, about 10 ft. wide each, and placed back to back, and open to the great halls between the galleries. The vertical cases are placed against this partition-wall, and consequently, following the same train of argument we have before adopted, each case will receive double the amount of direct light it did before; and he has also utilized the exterior wall of the upper stories of the galleries, by carrying along them what he calls a "bracketed gallery," that is, a narrow gallery (it is about 6 ft. wide), supported on cantilevers or brackets, which affords wall space for a row of vertical cases along each wall.

The first point on which such a plan should be examined is the space afforded. Each ground-floor room of the main block gives a floor-space altogether of 63 ft. by 160 ft., and there are fourteen of these in the main block, which, with the upper stories of the galleries, and including the large corridors, but not including the "bracketed galleries," gives a floor-space altogether of upwards of 200,000 square feet. This is independent of the central and flanking blocks. The plan issued by the trustees of the Museum as a guide to competitors showed, it is understood, that less than 150,000 square feet was all that was thought necessary to be provided, both for the present wants of the institution and for its future extension.

If, for instance, it was thought desirable to adhere to the arrangement of preserving uncovered spaces between the galleries, then to provide the same or nearly the same amount of floor space, the galleries would have to be made 40 ft. wide, and separated only from 25 ft. to 30 ft. apart. But this would be a repetition of the present British Museum, without the advantage of the open space round it. Besides the disadvantages as regards convenience and light in the upper floors, the lower story would require to be upwards of 30 ft. high to obtain any direct skylight on the vertical cases, and the spectator in so broad a room would have the light of one window always in his face, and the light (such as it would be) from the other reflected back from the glass of the cases; and, on an ordinary winter's day, the cases below the window in which the sun was shining would be in deep shadow.

There is no worse position for such cases than to be immediately under a window through which a fair amount of light is shining; but the proximity of the galleries to each other would cut off most of the light from the lower stories during a great part of the day. These spaces would be dark, narrow, ill-ventilated courts; and, in fact, the building might as well be placed among the narrowest streets of the City, instead of on the open site designed for it. If any one who wishes to see the effect of the proximity of a lofty building for destroying light, will go on some afternoon to that part of the King's Library opposite the great dome of the reading-room, he will soon be convinced that such a room is most unfitted for the exhibition of specimens. We should rather profit by the experience gained from such a building than reproduce the features proved to be defective.

An objection might be raised that the "bracketed galleries" are too narrow for the purposes of scientific study of the things in them; and perhaps an additional 2 ft. to the breadth would be desirable for convenience of passage. The proper limit to their breadth is, of course, that the most projecting part shall not extend beyond a line drawn from the top of the case on the ground-floor below through the outer edge of the opening between the columns in front of those lower cases. But it must be explained that the architect did not intend any of these narrow galleries to be the places for detailed examination of individual specimens. For such purposes he provides small study-rooms on the other side of the small corridor at the inner end of the galleries; and even in their present form they utilise wall space otherwise totally lost, and in a manner similar to that which in the Museum of the College of Surgeons has been found satisfactory.

The narrow aisles on the ground-floor under the upper galleries might be considered as a departure from the principle of small quiet rooms, with wall-cases on each side; for they are virtually part of the great halls below, and yet not so well lighted as the body of those halls. But the cases in these narrow aisles really receive more light than if they were standing against the side walls of ground-floor rooms of 20 ft. wide, lighted only from the sides; for it is the same thing as placing the cases back to back in the centre of the room, and taking away the side walls altogether, which gives them both more light, and more advantageously applied; for, the spectator standing inside the row of columns, and looking at the wall-cases, has no window directly in his face, and (from the height of the aisle compared with its width) he will have no reflected light from the glass; and owing to the extent of the opening from floor to ceiling so close in front of the cases, they will be better lighted, notwithstanding the columns, than if in side-lighted rooms.

Indeed, the height of the rooms in both stories is excessive, considering that it tends to reduce the amount of effective light; it is only allowable on the consideration that the heights are determined by the rule before mentioned, namely, that the least inclined ray of clear sky-light shall be reflected from the cases *below* the eye of the spectator standing in the best position for viewing the case.

In conclusion, it must be again pointed out that the examination of this design has been made on that true analytical system which should be the rule of all such criticisms,—namely, to ascertain in the first instance the elements of the wants to be provided for; and, by reasoning on the best method of meeting each in succession, to build up step by step an imaginary normal fabric, fulfilling the general requirements with the least loss of individual advantages, and then compare the design under our hands with it part by part.

T. B. C.

PARIS EXHIBITION OF 1867.

THE immense works in course of execution on the grounds of Trocadero, opposite the Champ de Mars, seem to astonish every one by the rapidity with which they proceed. 5,000 or 6,000 men are employed, and eight or ten kilomètres of lines of railway are laid, in various directions, on which locomotives and wagons circulate continually. The quantity of earthwork necessary to be removed was estimated, at the outset, to be no less than 600,000 cubic mètres. Within a very short period the abrupt steeps of Trocadero will give place to an esplanade, slightly inclined, larger than the Place de la Concorde, being 500 mètres long by 250 mètres wide. The gradient is 1 in 16·7 as far as the Pont d'Jena, where it will meet the level of the Avenue du Roi de Rome. M. Alphand, engineer-in-chief, and M. Darcel, engineer of plantations, have so arranged operations that the 600,000 cubic mètres of excavation from the heights of Trocadero will serve for the embankment of the Exhibition railway, and the filling required close by. This railway is to join in with the Circular Railway at the Point du Jour, and to follow the left bank of the Seine, so as to convey passengers from any of the railways to the Exhibition. The contractors, MM. Charles Bergier and De la Montagne, have experienced considerable difficulty in the establishment of a temporary railway, in a confined space, without encountering confusion or accident, and they have been obliged to put in a great number of sidings. However, at present, the several trains of wagons, hauled by four locomotives, transport altogether from 16,000 to 18,000 cubic mètres of material as far as the Point du Jour. The earthworks of the line are to be completed by the 1st of June; a night service, illuminated by the electric light, has been experimented upon, and the result is so satisfactory that it will be put in operation in a few days' time.

At the Champ de Mars the works are progressing most actively, the earthworks executed up to the present time amounting to 160,000 cubic mètres. The space of ground between the Circular Avenue and the exterior wall of the Exhibition building is being brought into its permanent state. On the 5th inst., the cube of the masonry, both the rubble and the concrete, amounted to 26,100 cubic mètres, and there is every reason to believe that the foundations will be all completed before the end of the month. The arches of the lower portion of the structure are being laid, and those of the great ventilating conduit are now 210 mètres in length; the transversal vaults (3 mètres span) are completed for a length of about 100 mètres. Among the other works, there are 530 piers raised; 3,000 mètres of aqueduct and 200 mètres of collecting sewer constructed. In the various manufacturing establishments which are to supply various articles of construction for the building, a great activity reigns. Several have anticipated the periods of delivery of the pieces, and thousands of cast and wrought iron are ready to be put in place. It is calculated that the raising of the pieces of metal will be in full activity about the middle of next month.

The Park.—Among the establishments which French exhibitors intend to place in the park of the Universal Exhibition of 1867 around the Palace, are works for the treatment of silver-lead ore, and testing of lead; preparation of zinc ore, with a novel apparatus for the condensation of the metallic vapours; drawing of iron and lead pipes; manufacture of white metal (white zinc); foundries for bronzes and ornamental castings; forge for scrap-iron; manufacture of tin by a new process; glass-works, with the furnaces, exhibiting the cutting of crystal and pebbles for spectacles; cutlery works; beating out of copper, aluminium, and platinum; model (wash-house) bleaching ground; farms appertaining to the various agricultural districts of France, with stables and apparatus shown in action; examples of Imperial farms, with picked animals—plans and statistics relative to the results obtained; complete photographic studio, exhibiting to the public the various operations of the laboratory; monumental campanile, with clock, bells, and chimes; models of various kinds of buildings in wood, stone, brick, pottery, artificial marble, concrete, metals, &c.; examples of houses, showing the improvements introduced in France, with a view to health and comfort in cheap dwellings; kiosks, and chalets, fountains, vases, railings, fences, arbours of trellis-work, iron seats, rustic bridges, &c., for the decoration of gardens; hothouses, containing the finest specimens of flowers and fruit: a lighthouse, 66 mètres high, and other lighthouses of different heights, will every night throw their light upon the park and the banks of the Seine. Further, the park will contain an international theatre, where will be pieces in the various dramatic styles of all countries; an international concert-hall, in which the musicians of the different nations will perform; an international club-room, which will serve as a place of meeting for the exhibitors; and on the ground floor will be various shops, &c., in which visitors arriving by the railway will find accommodation for dressing and washing.

THE NATIONAL GALLERY, THE PROPOSED LAW COURTS, AND THE NATURAL HISTORY MUSEUM.

IN the House of Commons, on Monday last, Mr. Bentinck asked the First Commissioner of Works what course her Majesty's Government intended to pursue with reference to the new building for the National Gallery; whether a competition of architects had been invited, and who had been selected to compete; whether any definite period had been fixed for the exhibition of the competing designs, and who was to make the final award; whether any of the architects designated to compete for the new Courts of Justice had declined the proposed competition; by whom the instructions, in the form of a blue book, furnished to the competing architects, had been prepared; and what date had been fixed for sending in the plans.

Mr. Cowper said, that (as we informed our readers last week) two of the architects invited to send in designs for the new Courts of Justice had declined to do so, namely, Mr. T. H. Wyatt and Mr. Hardwick, and two others had the invitation still under consideration. The specifications, which contained elaborate details, had been prepared by the architectural clerk of the Courts of Justice Commission. The time fixed for sending in the designs was the end of October. With regard to the National Gallery, it was intended to receive designs from a limited number of architects suggesting the best way in which the ground in the rear of the National Gallery might be disposed of, and also a plan showing how, if it were determined to demolish altogether the building in Trafalgar-square, another building might be erected more convenient for the purposes of a National Gallery, and more ornamental. There was no intention to abandon the designs of the late Captain Fowke for the new buildings at Kensington. Mr. Waterhouse had been engaged to act in Captain Fowke's behalf, and to superintend the erection of the building. With regard to the Law Courts, plenty of time would be given for consideration before any step was taken by the Government.

In respect of the Natural History Museum, we cannot think the step that has been taken one calculated to increase the confidence of architects who enter into competition at the call of Government; the architects whose designs were pronounced the next in merit to those of Captain Fowke are put aside, and a gentleman who, we believe, was not even a competitor, is appointed over their heads.

To fill the vacancies in the list of architects invited to send designs for the Law Courts, Mr. Thomas Deane and Mr. Raphael Brandon have been named. The question of style may thus be considered as settled. The terms now proposed are a payment of 800*l.* to each competitor except the successful one. The latter is to act as architect and be paid 5 *per cent.*, provided that for three years after his engagement commences he shall undertake no *new* professional work requiring personal superintendence, without consent of the Treasury. We may repeat what we have said above, as it has been generally misstated, that the instructions have been prepared by the architectural clerk of the Courts of Justice Commission (Mr. William Burnet), and not by the Board of Works.

A POISONOUS ROBE.—The German papers state that Professor Maschka, of Prague, received a few days ago a green robe which had been worn at one of the last balls at the Court of Vienna, and the chemical analysis which he made, along with Dr. Lerck, showed that two ounces of arsenic were present in that piece of stuff, the length of which was 28 mètres (31¼ yards).

EXHIBITION OF THE ROYAL SCOTTISH ACADEMY.

THE exhibitions of the Royal Scottish Academy present a marked contrast to those of the Royal Academy, insomuch that, whereas in the latter the great majority of the works exhibited consist of historical and figure subjects, in the former landscapes and portraits predominate. This arises from no want of talent in the higher walks of art in the Scottish artists, but is attributable to the greater encouragement given to the production of such in the metropolis, which year after year attracts those who have attained an eminent position in the more limited arena to that where greater encouragement and larger remuneration reward their labours. Last year we had occasion to speak in high terms of the productions of Messrs. Douglas and Graham, and since then they have bidden farewell to Scotland, with the intention of joining the numerous band of their brethren who have preceded them.

The present exhibition contains no work of surpassing excellence, a respectable mediocrity prevailing, yet there are a few pictures of great merit. Several of the principal pictures in the rooms were exhibited in the Royal Academy last year. Amongst others, Mr. Drummond's "Graham of Claverhouse and Duke of Gordon," Mr. Nichol's "Irish Deputation," Mr. Gourlay Steell's large cattle-piece, Mr. Noel Paton's "Fact and Fancy," &c.; so that it is unnecessary for us again to refer to them.

Mr. Harvey, the president, exhibits a large landscape, in which branch of the art he is, in our opinion, more successful than in his figure subjects. No. 424, "A Drove Road," leading through a hilly country, is rendered with great breadth and simplicity; it is full of air, and quiet in colour; it seems, however, to lack some strong point of colour in the foreground, which would give value to the somewhat monotonous tone which pervades the whole scene. (419) "The Lesson," by Mr. Hugh Cameron," is a cottage interior, with a mother teaching her child. There is a feeling of calmness and propriety about this unpretending little picture that places it in a higher position than the mass of more pretentious works in the galleries. There is no straining after effect,—every detail is perfectly natural, and the colour is pure and silvery. The same qualities appear in "Threading the Needle" (468).

(524) "Christmas Day at Antwerp during the Spanish Occupation," Baron Henri Leys. This (not unknown in London, if we remember rightly) is the most remarkable picture in the exhibition. It conveys the impression to the beholder that it was painted at the period of the incident depicted, so intimately has the artist identified himself with his subject. The foreground is occupied by a street along which the inhabitants are promenading, some of the most beautiful damsels of the city being escorted by Spanish cavaliers, with whose flattering attentions they seem much pleased; an aged couple are tottering along, and the old lady is warning one of the belles of the danger she runs; while a young artisan, with his wife on his arm, is hurrying, and with clenched fist, seems to be calling down imprecations upon the conquerors and their doings. In the middle distance are a party skating on the frozen surface of a canal, and the distance is filled up by quaint spires and gables. The colour is subdued, but rich and harmonious, the drawing is firm, and the delineation of character subtle.

The works of Mr. Mactaggart, this year, are less ambitious, but more successful than those he exhibited last year. No. 318, "The Pleasures of Hope," takes its title from the figure of a fisher-boy who, with a toy-ship in hand, is gazing wistfully at a noble craft appearing on the horizon; another little fellow at his side is launching his little boat upon a pool of water left by the receding tide, while a terrier dog barks furiously at the floating object. The children are genuine seasiders, not the dressed-up figures of the studio; and the tone of colour is suggestive of the coolness of the sea breezes and the action of the figures easy and natural. Mr. Mactaggart has three other pictures of groups of children, in the delineation of whose innocent sports he is quite at home. Mr. Sam Bough is never so felicitous as when in the midst of shipping. In his "Tower of London" (405) the greater part of the picture is taken up with the river and the various craft crowding its docks and traversing its waters. The swing of the troubled water and the effect of the mid-day sun looming through the smoke of the city remind

us of the works of Turner. Mr. McWhirter's "Daybreak" (660) is simple in detail and construction, and is poetically conceived. The scene represented is a lonely churchyard by the seaside strewn with dilapidated tombstones, in the midst of which rises a runic cross, standing boldly against the pale grey light of early dawn which is stealing over the ocean. The canvass, however, is too large for the subject. (712) "Palm Forest, Evening," is less striking, but equally good. Mr. Halswell's pictures are not so crude in colour as formerly, though still rather too strongly pronounced. He lingers at the sea coast delineating the manners and customs of "Fisher Folk" (799), the action of some of whom is rather theatrical; much better is "Sunny Hours" (365), two lovers on the sands basking in the bright sunlight. The sea, in its wildest moods, is seldom well painted; the artist often strives to produce by elaboration what can only be done at the inspiration of the moment; a few happy touches will effect more than weary hours of labour. (354) "What care these Rovers for the Name of King," by Mr. W. F. Vallance, is an example of the spirited mode of treatment; the wild dash of the billows and the trickling of the spray down the rugged rocks are rendered with much force and effect.

Mr. Horatio McCulloch is still in the Trossachs. "Loch Katrine" (453) is, as usual, good in general effect, bad in detail. We prefer his water-colour sketches, Nos. 3 to 8, to his larger works. "Teviot Side" (264), by Mr. Arthur Perigal, is by far the best picture we have seen this artist produce: it has little of that hard panorama style of treatment which characterized his former works, and which is still discernible in No. 553, "Ben Sleoch, Kinloch-Ewe, Rossshire."

It is always pleasing to notice the advent of young and promising talent. Mr. J. O. Stewart has left the province of architecture for that of painting, and from what we have seen of his efforts in the former direction, he seems more likely to establish a position in the latter. (782) "Whitaker criticising the List of Guests to the Restoration Feast," is an ambitious work, well conceived, good in drawing, and rich in colour. A greater depth of shadow would have enhanced the general effect. Mr. Stewart's knowledge of architectural detail will be useful to him. The bay-window and panelling on the walls are excellent.

As an example of brilliant effective colour, there is nothing in the rooms that surpasses the study of "Age" (440), by Mr. G. P. Chalmers. It is time that he were done painting studies, and applying the gifts which he undoubtedly possesses to the production of something more worthy of criticism. No. 756, "A Slave claiming his Freedom on English Ground," by Mr. James Gordon, is worthy of a place in Exeter Hall. An American vessel has touched at an English port, and Quashie has escaped on to the quay; the skipper chases him, whip in hand, and a bishop, who happens opportunely to be present, gives expression to his indignation, while two stalwart British seamen interpose their protection to the fugitive. We were not aware that niggers were exposed to the rigour of our climate in a state of semi-nudity, but here we see an example of the little consideration evinced by the owners for the health of their "chattels." We have a little more to say.

THE CAPITAL OF AUSTRALIA IN 1916.

AT the last meeting of the Liverpool Architectural Society, Mr. Huggins continued the "Letters from the New Capital of Australia, by Scamozzi Smith, architect; written to his friend in London during the summer and autumn of 1916," which had formed the paper of the evening at the last meeting of the society.* The three first letters gave an account of the styles of architecture prevailing in the new city. The architects had not invented a new style, but had adopted and made their own the styles which they had found ready to their hands, and were rearing to perfection for their various uses three several styles, viz., the Italian, a Romanesque, and a Gothic. These, though clearly definable, were yet so broad that they touched each other, and made perfect harmony amongst the different buildings and parts of the city. Each style had imbibed so much of the others, and all were so assimilated to the place, that they appeared but as one comprehensive and varied style, embracing so many subordinate manners of design. Ecclesiastical edifices were always Gothic or Romanesque; civil, municipal, and commercial buildings were Classical or Italian. But all the three styles were so rationally treated, so influenced by local considerations of material, scenery, and climate, that no antagonism anywhere existed; all was harmony. And such was the multitude and variety of true and genuine works, that often, through entire streets and districts of the city, an uninterrupted current of rich and bright thoughts and glowing fancies regaled the wayfarer, who could not but feel that a spirit of beauty hovered around these delightful scenes, and glided along those enchanting avenues with healing on its wings. The writer especially eulogised the great churches, the creations of the Romanesque style, which confirmed his own lofty impression of the Norman, Rhenish, and Lombard styles of architecture. The windows were not the small, timid apertures of the ancient examples of the style, but noble, fully-developed features, with bold shafts to the reveals, and filled in with tracery and stained glass. They had no spires, which their author considered as belonging to the Pointed Gothic only. In the letter next following, several buildings are visited and described, and conversation with native architects detailed. A letter is devoted to an account of the style and character of the country mansions of Australia, which, whether intended or not, seemed to have quite caught the spirit of the ancient Elizabethan style of England. After this comes a reference to railway stations, which are described as being not at all remarkable for architectural beauty. They were all without the walls, for no railway was allowed to enter this or any other city of the empire—all terminated at the outside, and neither disfigured the place above-ground nor ate into its bowels below. There were six stations on the circumference of Shaksperia, from which ran roads in different directions to the most distant parts of the empire, and formed the chief lines of a very simple system, arranged to embrace the cities and principal towns only. No short cross-lines, merely for communication with villages or insignificant towns, were allowed to be formed. Considering the transportation of persons from place to place as of at least equal importance with the conveyance of their letters, Government had taken all railways under its management, and a member of it, who was a distinguished engineer, was the Minister of Railways, and responsible for their orderly and safe working. The result of all this was, that accidents were as rare here as they were frequent in England. After a description of the Royal Palace, an account is given of the Royal Society of Artists, which was in three sections, viz., the pictorial, the sculptural, and the architectural, which were always represented in company,—that is, there was never an architectural society separate and distinct from the society of painters and sculptors. The architectural, and indeed all the sections, held their meetings fortnightly; but every three months there was a meeting of the entire society. All metropolitan architects were connected with this chartered society, and all provincial societies acknowledged its authority, which was chiefly exercised in arranging and settling the general course of style, in seeing that there was not diversity of manner in buildings of the same purpose for one description of use, and in the same kind or character of locality. Connected with this society was a training college for architects, and a gallery containing plans and views of all the great and distinguished buildings in the world, besides models of a great number. The state of criticism is given in Australia. Soon as a public building was fairly finished, the architectural journals set to work to criticise it, which they did very freely, for it was considered that no man was more amenable to the bar of criticism than the architect. But it was done dispassionately. If anything like personal feeling betrayed itself—if the object of the writer was evidently not to weigh the artistic merits of the work he professed to review, but to wound the feelings of its author, it would degrade the character of both journal and journalist in the eyes of the public, who went upon the principle that truth and candour are the brightest gems of criticism. Generally speaking, a pretty uniform opinion was expressed, and this was the case also with the literary journals; for there was little of the disgraceful discordance of opinion on literature which so much degraded criticism amongst us. The writer had been much pleased with the tone of criticism generally in Australia, which had cheered him with the hope that detraction is not destined everywhere and for ever to pour the "waters of bitterness" upon the artist or author who dares to consult his genius and his conscience alone, or an unacknowledged or obscure merit. A letter was selected from among many on the subject of house-planning in Australia, which attributes the immense variety observable in plans of gentlemen's houses, to the truthful adaptation of each to the peculiar character and habits of its occupants. On extended observation the writer found that what he had advanced relative to the moral and intellectual condition of this people was borne out by the plans of their houses, in which the higher departments, answering to the intellectual and moral part of man, received a greater recognition, and the lower ones, corresponding to his physical, less than he had ever before seen in any buildings of the same class. Everywhere had kitchen, pantry, butler's pantry, wine-cellar, &c., greatly dwindled in size and importance; and nowhere was the kitchen the complex laboratory that it was in England. The house of a philosopher is described, in which, while picture and sculpture gallery, library, museum, &c., were of the amplest and finest description, the kitchen department was as small and simple as Pythagoras himself could have wished it. This house contained also an oratory or chapel, which was an apartment commonly met with in Australian houses, in reference to which the author is pleased with the idea of devoting some spot, however small, in a house, to Him who gave the whole.

* See p. 149, *ante*.

MANSION, LEIGH PARK, NEAR PORTSMOUTH.

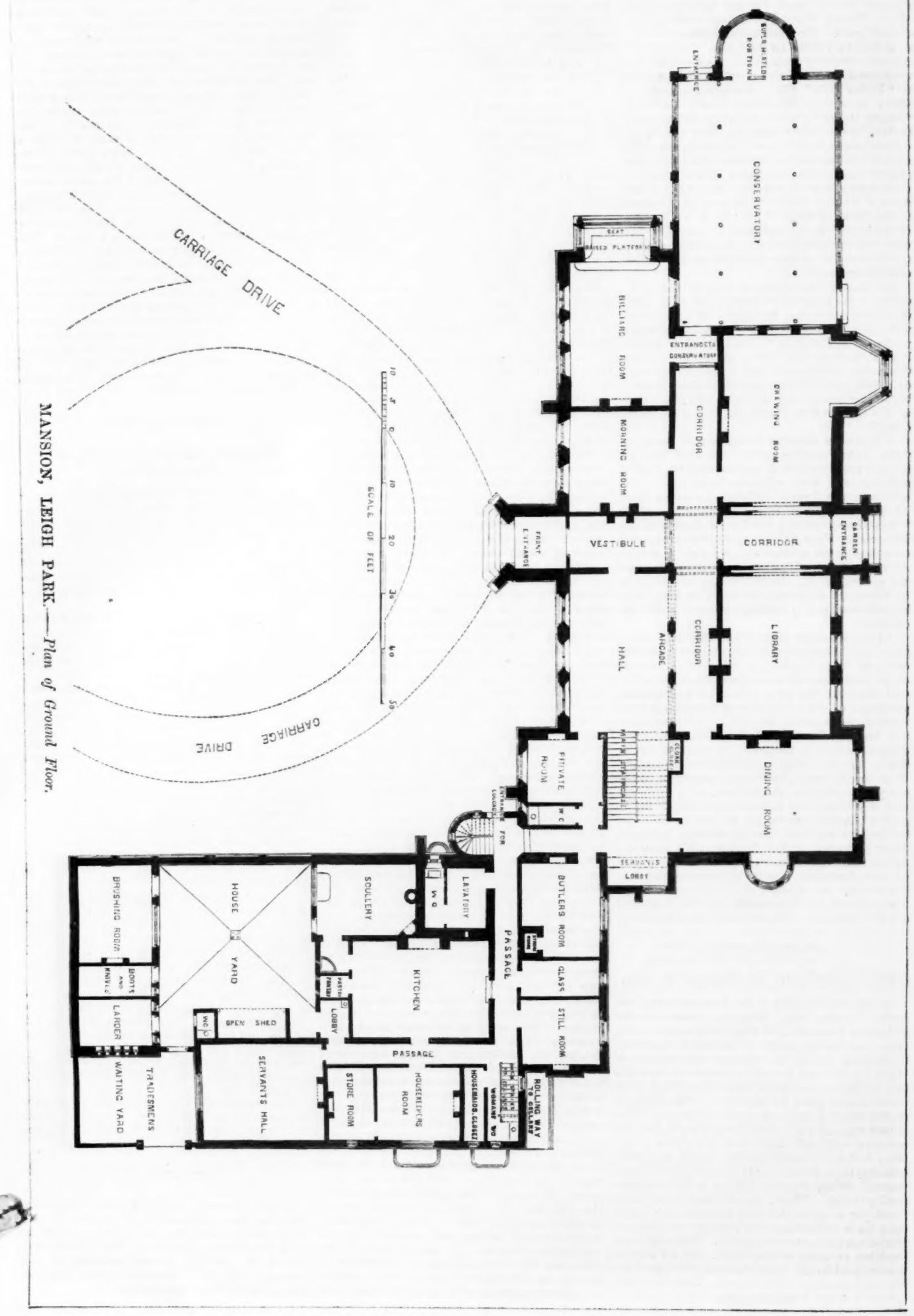
THE inhabitants of Portsmouth and its neighbourhood have long been familiar with the beautiful grounds and conservatories of Leigh Park, through the kind liberality of Mr. W. H. Stone, their representative in Parliament. The ungraceful stuccoed building erected on one of the least attractive sites in the Park, which until lately served for the residence, will be remembered.

About three years since the proprietor decided to abandon the old house and build a new residence on a site overlooking the lake and commanding views over the Isle of Wight and some of the most beautiful scenery of the south coast; and in the spring of 1863 the new mansion was commenced. We give a view of the eastern front, showing the principal entrance and the hall, which is carried up the full height of the building. The general arrangement of the principal rooms and the offices will be seen on reference to the ground plan; above it are two floors of bedrooms, to which access is given by corridors similar to that on the ground plan. The nurseries are placed over the offices, with which they have a communication independent of the principal and back staircases. The centre portion of the tower is filled with cisterns for the supply of hot and cold water, which are carried to all parts of the building.

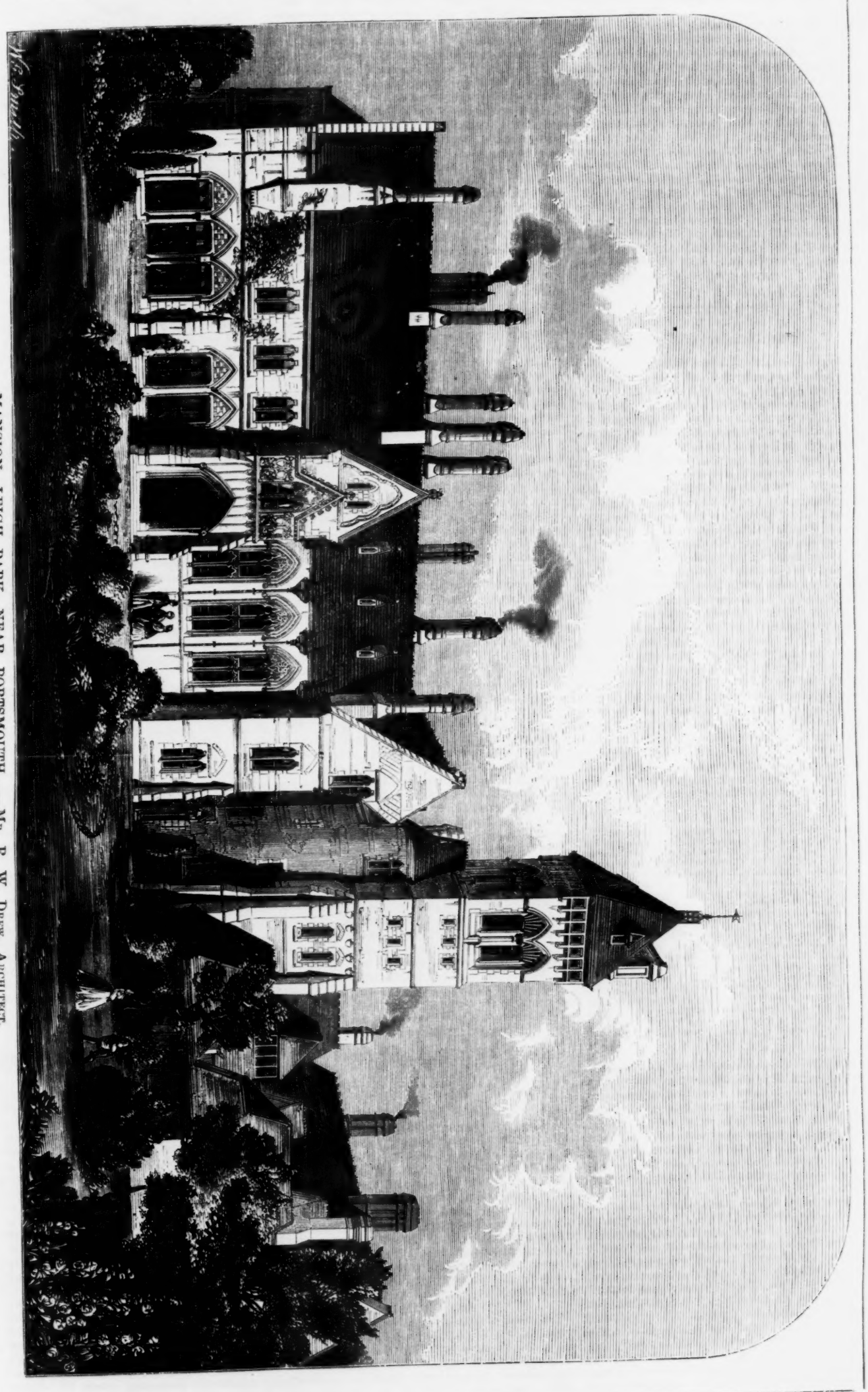
The materials used for the walls are red bricks, and Farleigh Down stone for the dressings. The roof is covered with plain tiles; both bricks and tiles being made on the estate. The arcades and the ashlar work in the hall are of chalk from Portsdown Hill, with shafts of Devonshire marble. As much as possible throughout the building native materials have been used, the chimney-pieces being of serpentine, alabaster, or Devonshire marble. At present the house is approached from the old entrances on the Portsmouth-road; but it is intended to form a new one near to Rowland's Castle. The house is warmed throughout on the hot-water system by Messrs. Weeks.

The works have been carried out by Messrs. Rogers & Booth, contractors, of Gosport, from the designs of Mr. R. W. Drew, of Storey's Gate, Westminster.

ROMAN CATHOLIC CATHEDRAL IN PEKIN.—In May last the corner stone of a new Roman Catholic Cathedral was laid in Pekin. It is to be of magnificent dimensions—300 ft. long, and 150 ft. in breadth, to the extremes of the transept. Its spire will overtop the loftiest of the palaces of the imperial city.



MANSION, LEIGH PARK.—*Plan of Ground Floor.*



MANSION, LEIGH PARK, NEAR PORTSMOUTH.—MR. R. W. DREW, ARCHITECT.

PARIS.

DURING the year 1866 in Paris seven inaugurations of public buildings are to take place:—1st, the Church of la Trinité; 2nd, that of Saint Augustin; 3rd, that of Saint-Pierre, at Montrouge; 4th, the *mairie* of the third arrondissement, at the east of the Square of the Temple; 5th, the *mairie* of the fourth arrondissement, Rue de Rivoli, at the east of the Caserne Napoleon; 6th, the great annexe for the offices of the Minister for Commerce, Agriculture, and Public Works, Rue Saint-Dominique Saint-Germain; 7th, the opening of the Chemin de Fer de Ceinture, on the south or left side of the Seine.

The new street, the Rue Gay-Lussac, in prolongation of the Rue de Medicis, between the Boulevard Saint Michel and the Rue d'Ulm, was opened on Saturday last for public circulation. Thus access is given, by a wide and handsome thoroughfare, to one of the slopes of the mountain of Sainte-Geneviève.

Public and gratuitous courses are opened at the Hôtel de Ville, by permission of the Prefect of the Seine, for the instruction of all those who wish to prepare themselves for the municipal examinations.

The American system of self-recording telegraph apparatus, invented by Hughes, has now given a new impulse to telegraphic communication. Our readers are perhaps aware that the French Government purchased, in 1861, the right of using it; and the result has been that of its being in full work in all the principal offices in France. Its productive power or rapidity of communication is, in fact, triple that of the best machines which have preceded it; the latter only giving fifteen to twenty despatches per hour, whereas that of Hughes attains the number of fifty telegrams per hour. The apparatus has also this advantage over that of Morse, viz., that of giving the despatches in the proper characters, and it is the printed band that is handed to the person to whom the message is forwarded. This system has now, after a lapse of some time, been adopted in Russia and Italy; also it is used by some companies in England.

Abattoirs have been constructed at Vincennes under the superintendence of M. Blondel, architect. The principal entrance opens on the Rue de Laguy, and has for a gateway the grande grille of the ancient abattoirs du Roule. There is a front court and two lateral ones, a large central court, and two back ones. In the first lateral courts are two symmetrical pavilions, one for the administration and the other for the concierge. On the right is a tank, formed of agglomerated concrete, always full of water, for the cattle to drink after their journey. The great central court is 492 ft. by 246 ft. wide. The hydraulic service is carried on by steam power, which pumps water from a well 660 ft. deep into a reservoir containing 22,000 gallons. From this tank are laid pipes all over the building for cleansing purposes, or for the extinction of fire. The system of drainage as far as the building is concerned is perfect; but, as the neighbourhood contains no sewerage, the drainage matter has to be received in a cesspool, from which it is removed in the usual manner adopted in Paris.

DESTRUCTION, OVERCROWDING, AND REPLACEMENT OF DWELLINGS.

THIS difficult subject has at last got fairly into Parliament, as we have said in another article; and it is to be hoped that the united wisdom of the Legislature may be able to solve the problem. Three proposals connected with it have been under consideration. Government support the measure introduced by Mr. Childers, which merely proposes that the powers already possessed by local authorities, but scarcely if at all acted on, of borrowing money from the State at 4 per cent. interest, for the purpose of erecting dwellings for the poor, should be extended to parishes, public companies, and even private persons. These parties, however, can only acquire ground on which to build such houses by ordinary course of bargain with the owners.

Mr. Thomas Hughes proposed unwisely that railway companies should be obliged to replace such dwellings as they may destroy. Mr. M'Cullagh Torrens proposes to confer power on the Home Secretary to cause insanitary dwellings or districts to be demolished on representation by local bodies, verified by inspection, that the mortality in such districts has for three preceding years been 3 per cent. per annum; and to empower corporations to buy ground and build houses thereon for those who are in extreme want of house accommodation.

In moving the second reading of his Bill, Mr. Childers said that so far as regarded the demolition of inadequate buildings, Government would accept the principle of Mr. Torrens's Bill, but would decline to ask compulsory powers, preferring to resort to a judicial instrumentality to compel such buildings either to be put in proper order or else to be pulled down. This the Government proposed as a substitution for Mr. Torrens's Bill. The Chancellor of the Exchequer supported the Bill, and Mr. Torrens assented to a suggestion of the Government that after being rebuilt the houses should be disposed of in the market, as being a great improvement on his own measure.

Mr. Hughes, in moving new standing orders in reference to his proposal, which related to the metropolis and other large cities, stated that half a dozen of the great railway companies of the metropolis had assented to the principle embodied in his resolutions, and were ready to take the burden upon their shoulders; but he did not name the companies, who may be among those whose works are already done, and who are not likely to find their assent a very onerous one under the circumstances. Mr. Gibson said it seemed to him that they might proceed in this direction till they made improvement almost impossible, and the execution of valuable works so difficult that they could not be undertaken. No class in this country had been so benefited by the great works executed of late years as had the labouring classes. He believed their wages had been raised, and abundant employment found for them by those works. If it could be shown that injury was done to a certain class by any particular works, he should say compensate them; let no man suffer injury in order that certain works might be executed. But if railway companies were to have fastened on them the obligation of being builders of model lodging-houses, he had great doubts whether that enactment would be for the benefit of the working classes. If these were to be erected in the town, the result would be to create a greater evil than was sought to be removed.

Mr. Hughes, in reply to objections taken by Lord Stanley, observed that all he contended for was that, when corporations came to that House and asked to be enabled to do that which a landlord could do without coming to anybody, it was the bounden duty of the House to see that the public interests were attended to. He was prepared to accept the suggestion that the subject should be referred to a committee to be inquired into. His motion therefore was withdrawn.

A petition to Parliament has been prepared at Liverpool, the prayer of which sets forth, "That your petitioners, impressed with the urgent necessity which exists for the removal of the moral and physical evils consequent on the overcrowding of the labouring classes in towns, and convinced that this object can be promoted by legislative means, assisting and compelling the erection of proper buildings as dwellings, humbly pray that some measure enforcing the principles contained in Mr. Childers's and in Mr. Torrens's Bills be allowed to pass."

FROM MELBOURNE, AUSTRALIA.

THE foundation-stone, or, more strictly speaking, one of the corner-stones (for the building had been previously commenced), of a church for the members of the Church of England, at Malvern, has been laid by Sir W. F. Stawell, Chief Justice. The site of the church is at Malvern-hill, adjoining the school-room. The material will be bluestone, with freestone dressings, and the edifice will accommodate 180 persons. Mr. S. H. Merret is the architect, and the architecture adopted is the Early English. The contractors are Messrs. Jones & Morgan. The church is to be called St. George's. The estimated cost is 1,800*l.*, towards which about 600*l.* have been obtained.

The commissioners appointed to manage the Intercolonial Exhibition to be held at Melbourne in 1866, have issued a circular inviting the co-operation of colonists, so as to make the exhibition a successful exposition of the arts and industries of the Australian provinces. This exhibition, it is expected, will far excel its predecessor of 1861.

The Registrar-General's report on the vital statistics of Melbourne and suburbs for the month of October has been published in the local *Gazette*. The number of deaths was 257, which was greater than that in the same month of any year since 1860: the mean for the period was 242. It was also in excess of the mortality in September, but not so great as that in either August or July. Of the deaths, 145, or 56 per cent., were of males, and 112, or 44 per cent., females. The persons who died under five years of age, were 135, or 52 per cent.; those over five, 122, or 48 per cent. In October, 1864, 41 per cent. of the deaths were of children under five, 37 per cent. in October, 1863; 40 per cent. in October, 1862; 51 per cent. in October, 1861; and 62 per cent. in October, 1860. The chief causes of death were—local diseases, 33·85 per cent., and zymotic, 29·96 per cent.

THE TRADES MOVEMENT.

The Strike at Woolwich.—A crowded public meeting has been held of operatives belonging to the various branches of the building trade at Woolwich, Charlton, and Plumstead, who have left work in consequence of the refusal of the masters to yield to the request for a half-holiday on Saturdays. It was stated that the large majority of the masters were still determined not to accede to the terms of the memorial forwarded by the workmen to cease work after one o'clock on Saturday, although in some cases the masters had yielded the point. Mr. Davies (secretary of the council of London painters) and others addressed the meeting, and resolutions were adopted pledging the workmen present to adhere to the terms of the memorial, and to continue the strike until these were granted by the master builders' committee. The number of men who have left their employment is upwards of 600, and several important works are in consequence suspended.

Lord St. Leonards' Bill.—An adjourned meeting of trade delegates has been held at the Bell, Old Bailey, London. Mr. Robert Danter, president of the Trades Council, and chairman of the Amalgamated Society of Engineers, &c., presided. The delegates appointed to represent the different trades at this and previous meetings for the consideration of Lord St. Leonards' bill were accredited by a number of working men, said to amount in the aggregate to nearly 100,000. After some discussion the following resolution was carried:—

"That this delegate meeting of the London trades having discussed the principles and objects of the Bill brought forward in the House of Peers (1865) by Lord St. Leonards, entitled 'Conciliation of Equitable Councils Bill,' composed of masters and operatives for the settlement of disputes and differences as set forth in the Act 5 Geo. IV., cap. 96, and for extending to the said councils by the mutual consent of both parties (to the dispute) any other matter relating to the peace and welfare of masters and operatives, notwithstanding the dispute may have reference to further contracts or bargains respecting wages, hours of labour, or other questions which may from time to time arise, reserve to ourselves to suggest such alterations in the details as may seem necessary. Further, that the delegate meeting recommend that all disputes and contracts to serve be submitted to the said councils for adjudication and settlement, and that the power given to enforce awards, as set forth in the said Bill, be extended to all disputes arising out of contracts to serve (except contracts relating to servants in husbandry)."

Arbitration at Wolverhampton.—Employers and employed in the building trade are setting a good example here and elsewhere in the Midland district in the settlement of trade disputes. In May last the rules for arbitration between the house carpenters and their men were agreed to for twelve months. It was then arranged that notice of any intended alteration after that date should be given at the beginning of the year. In accordance with this rule the men recently gave notice of alterations involving the increase of wages from 5½d. to 6d. per hour; that wages should be paid at one o'clock on Saturdays, so that those who chose to enjoy a half-holiday on that day should be at liberty to do so; and that men working more than two miles beyond Wolverhampton should be allowed to walk home the extra distance in the master's time on the Saturday. The masters, on their part, gave notice to rescind a rule giving an extra half-penny per hour to men employed on unprotected buildings during the winter months. These matters were referred to arbitration, and Mr. R. Kettle was again selected to act as arbitrator.

He has decided mainly in favour of the men's requirements.

General Builders' Association, Manchester.—The annual meeting of this association has been held. Mr. Henry Lovatt, of Wolverhampton, president of the association, took the chair, and about 200 delegates from branch associations in most parts of England and Scotland attended. Mr. Alderman Neill was appointed president for the ensuing year; and Messrs. Lovatt, of Wolverhampton, Briggs, of Birmingham, Baker, of Bristol, Stones, of Blackburn, Dempster, of Liverpool, Shennan (Lord Dean of Guild), Edinburgh, Edwards, of Manchester, Marsden, of Bolton, and Longson, of Stockport, were appointed vice-presidents. An influential committee was also chosen. A large sum of money was subscribed in the room towards a fund for extending the association. Resolutions were passed pledging the association to place the system of contracts connected with the building trades on a more satisfactory basis (to which we shall return); and in reference to the labour question, to adopt arbitration for the settlement of all trade disputes; to discountenance all trade restrictions connected with societies, piecework, ready-worked material, apprentices, &c.; and to adopt the system of payment by the hour. The meeting was very unanimous on all points.

Liverpool.—The Liverpool labourers in the building trades have demanded an advance of wages at the rate of 2s. per week from March to November, and 1s. per week from November to March. A few of the employers agreed to the demand, but upwards of a dozen firms refused to accede to it, and locked out the labourers.

Stockton-on-Tees.—The strike in the shipbuilding yards at Stockton-on-Tees for a reduction of the hours of labour has come to a somewhat abrupt termination. Several of the men were summoned by their employers for breach of contract in leaving work without notice; and in the first case heard the magistrates convicted the defendant, and sentenced him to a month's imprisonment. Thereupon, the other men summoned consulted with their advocate, and in the end decided, rather than run the risk of being sent to prison, to return to work.

Whitby.— The whole of the joiners and painters engaged at Whitby have struck for an increase of wages. The sum demanded is a rise from 24s. to 28s. a week.

Edinburgh.—The dispute between the master builders of Edinburgh and Leith and their labourers still continues, though one or two masters have conceded the demand made, which is that 18s. should be paid as the weekly wage of the labourers, instead of 16s. as formerly. On Monday last week, fifty of the masons' labourers left Edinburgh for Stockton-on-Tees, where they were offered employment at 24s. a week. Afterwards about fifty more men left the town for employment in other places—thirty-five having gone to Glasgow and neighbourhood, at wages of 19s. 3d., and upwards of twenty to Leeds and Sunderland, at 1*l.* 4s. It is said to be the intention of the society to send another 100 men to England. The men who are at present employed have agreed to give a day's wages weekly for the support of their comrades, besides their usual weekly contribution to the funds of the society.

Ayr.—The operative masons of Ayr have turned out on strike. They demand an advance of ½d. per hour, or 2s. 6d. per week. With the exception of the County Lunatic Asylum very little building is at present going on in the neighbourhood.

Maidstone.—There has been a crowded meeting of agricultural labourers here, who have resolved to endeavour to obtain a rise of 6d. a day in their wages, and leave to quit work on Saturdays, at 4 p.m.; overtime throughout the week to be paid for at the rate of 4d. an hour.

PATENT COWHOUSES.

PROFESSOR GAMGEE has patented an arrangement of cow-houses. This invention consists in the construction of cow-houses, wherein the cows are housed in large buildings or lots separated from each other, each house or lot being again separated into rows or compartments capable of accommodating a small number,—say about twenty animals,—and each of such compartments having a distinct entrance, the walls, also, of each being of solid work, so that in case of disease in any one of such compartments there is no risk whatever of its spreading, by contagion, to the animals in any of the others. According to the patentee, each of these houses possesses efficient means of ventilation, consisting of air-passages through or between the spaces of the roof, whereby there is a perfect diffusion of atmospheric air, whilst draughts and strong currents are avoided. An arrangement is also supplied in each compartment for its efficient drainage and cleansing quite separate and apart from the rest. Water is also so supplied that each compartment can be at any time separately flooded throughout its entire length, or, if desired, part of it. The arrangement above described also admits of a more economical and convenient preparation and distribution of the food. It is also proposed to construct the interior walls of these houses throughout with vitrified bricks, the glaze on the surface of which will prevent the walls absorbing injurious gases or fluid.

COMPENSATIONS.

Harlowe and Wife, occupiers for life, v. *St. John's-wood Railway Company.*—This case was tried in the Sheriff's Court, before Mr. Under-Sheriff Burchell. As well as the following, it arises out of the same property, No. 2, North Bank, which is leasehold, for forty-six years and a half unexpired, at 25*l.* per annum ground-rent. Mr. Hawkins, Q.C., and Mr. Cole, appeared for the claimants, and Mr. Lloyd, with Mr. Horace Lloyd and Mr. Gadsden, for the company.

It appeared that Mr. and Mrs. Harlowe are entitled to the profits of the house, or to residence, so long as they or the survivor choose to occupy; and the claim of 3,800*l.* was made on the assumption that the trustees, in whom the leasehold interest is vested, could not and would not re-invest the produce in property of a similar description. Mr. Harlowe's local interests induced him, on receiving the notice to treat, to purchase the lease of the adjoining property, on his own account, for 3,500*l.*; and the claim was for loss by increased rent, and for making the house equal in capacity to the old one. The facts having been proved by Mr. Harlowe, the following evidence was given for the claimant:—

Mr. E. Roberts.—Cost of new house, 3,500*l.* at 6 per cent., equals per annum		£225
Ground rent		21
		£246
Deduct interest on Consols, to be purchased by sale of old house, assumed at 4,000*l.*		138
Annual loss		£108
For the lives, at 5 per cent., worth eleven and a quarter years' purchase		£1,215
Money to be immediately expended in making the new house equal to the old		1,500
Loss of interest during works		200
Removal		550
Re-arrangement of cabinets of geological specimens, and library and fittings		350
		£3,815
Mr. Chinnock considered that the cost of new house and additions should be taken as sunk for the whole term, which, at 6 per cent., would give a rental, *with ground rent*		342
Deduct interest from Consols		137
Annual loss		£205
At eleven years' purchase		£2,255
Loss of rent during works (half year)		123
Removal		500
		£2,878
To which should be added fixtures, about 100*l.*		
Mr. Dent valued the old house at 260*l.* a year.		
Mr. Edwin Fox valued it at		£275
Deduct ground rent	£25	
And interest to be received	138	
		163
Annual loss		£112
At eleven years' purchase		£1,092
Ten per cent.		109
Proportion of expenditure		1,200
Double rent during works		200
Removal		500
		£3,101
Adding fixtures, worth about		190
		£3,291

The company did not call any witnesses, but Mr. Lloyd relied on the failure of the evidence to show any such loss as had been suggested, and if any loss of annual value were to be sustained, it would be limited to 60*l.*, which for the lives would be 660*l.*, added to a sum of 200*l.* at most for removal.

The summing up of the Under-Sheriff was repeatedly interrupted by counsel, with the view of clearly laying it down that the claimants could not sell any part of the term, but would be merely entitled to a sum for damage, by being obliged to remove from one house to another. The Under-Sheriff stated that he should not withdraw any of the evidence from the jury, as it was for them to judge of the amount of injury to be sustained. The jury retired for upwards of an hour, and returned a verdict of 3,000*l.*

Jolliffe and Another v. *The Same.*—Mr. Serjeant Parry and Mr. Henry James, for the claimants; and Mr. Lloyd and Mr. Horace Lloyd, for the company.

This claim was for the lease of the same premises as in the preceding case. The term is for forty-six years and a half, at a ground-rent of 25*l.* Mr. E. Roberts, Mr. Rushworth, Mr. Chinnock, Mr. Dent, and Mr. Fox, valued it at from 260*l.* to 275*l.* per annum, which at 6 per cent. gave value, with 10 per cent. added, from 4,006*l.* to 4,191*l.*

For the company Mr. F. J. Clarke valued it at 175*l.* which gave a total of 2,658*l.*; Mr. Marrable, 160*l.*, but since hearing the evidence, he had increased it to 175*l.* Verdict, 2,800*l.*

The two cases occupied the whole day from half-past ten till six o'clock.

The New Law Courts.—A case was tried on Monday, to decide on the compensation for two houses, in Crown-court, near Temple-bar, the freehold of Mr. Emanuel Moss, who claimed nearly 2,000*l.* for them. There had been no offer but the nominal one of 5*s.* by the commissioners. Mr. Hawkins, Q.C. (with whom was Mr. Garth), appeared for the claimant; Mr. Joseph Brown, Q.C., and Mr. M'Mahon appeared for the commissioners. The property in question was let out to weekly tenants, by a person named Palmer, who rented the same of Mr. Moss, at 40*l.* a year, but which, on account of the great increase in the value of property in the metropolis, was now worth between 70*l.* and 80*l.* a year. The neighbourhood was a low one, and the houses, with a number of others, were about to be swept away by the erection of the new law courts. Several witnesses were called on the part of the claimant. It was estimated that 108*l.* could be made out of the property by weekly tenants, and the net sum would be above 80*l.* It was worth, being freehold, twenty-two years' purchase. The value was 1,750*l.*, and, with 10 per cent. for compulsory sale, would make the compensation about 1,950*l.* It was proved that there was a great demand all over the metropolis for houses for working men, in consequence of the number of houses pulled down for railways. Property worth 30*l.* a few years ago was now worth 100*l.* a year, such had been the great increase in the value of property in the metropolis. On the part of the commissioners the claim was considered as excessive in regard to such a low neighbourhood, the removal of which for the new law courts would be a benefit to the metropolis. It transpired that the tenant Palmer made 200*l.* a year out the two houses rented at 40*l.* Mr. Brown called four surveyors, and their estimate was under 800*l.* Mr. Hawkins complained that no offer had been made, and that the extra costs, beyond the sum allowed on taxation, would be 100*l.*, and that was another reason for a liberal compensation. The jury retired for a short time. The verdict was for 980*l.*

Pimlico.—The case "Dunsby *v.* The Metropolitan District Railway," was heard before Mr. Scott Turner, the high bailiff of Westminster, and a special jury, at the Sessions House, Broad Sanctuary. Mr. Bovill, Q.C., and Mr. Barnard were counsel for the claimant, a hairdresser, &c., at Shaftesbury-terrace, Pimlico, whose premises are required by the Underground Railway. Mr. Lloyd represented the company. The claim, as originally made, exceeded 7,000*l.*, and was strongly contested. Mr. Dunsby, who had recently taken premises in the Strand, was examined as to the various items of his claim for trade compensation. On cross-examination he stated his profits on hair-fluid and the sums he realized from hair-dye. Two valuers were examined as to the rental of the premises. The lease had been granted at 100*l.*, and property had so greatly increased in value in the metropolis in the last few years, that it was now worth, in the opinion of one of the surveyors, 200*l.*, and in the view of another, 220*l.* a-year. After the case had occupied some time, Mr. Bovill said his learned friend Mr. Lloyd had shown him his calculation, and they had agreed to a verdict for 1,975*l.* A verdict was accordingly entered for that amount.

COMPETITIONS.

New Dock Offices, Hull.—Twenty-seven sets of plans were submitted in this competition. The secretary, in a circular to the competitors, states "that the first premium of 100*l.* has been awarded to Mr. C. G. Wray, and the second premium of 50*l.* to Mr. Cuthbert Brodrick. Three other plans, by Messrs. William Botterill, C. O. Ellison, and Giles & Smith, were very much commended."

The Warehousemen and Clerks' Schools for the Manchester District.—The designs have been on view at the office of the secretary, in Manchester. Objections to the decision have of course reached us. One correspondent says, "The committee who decided the matter is composed of persons all of whom are in the Manchester trade."

Perth.—General Railway Station Hotel.—The joint committee of the General Station at Perth have, with the assistance of Mr. Beattie, archi-

tect, come to the decision that the designs which appear to them to be the most suitable for an hotel at Perth station would involve a greater outlay than 15,000*l.*; and accordingly the committee have instructed Mr. Heiton, Perth; Mr. Smart, Perth; and Messrs. Matthews & Laurie, Aberdeen and Inverness, to prepare reduced plans for the proposed hotel: the same to be lodged by the 2nd of April.

Waverley Station, Edinburgh.—The town council have accepted the offer made by the railway company of a site adjacent to the east end of Princes-street, in lieu of the site in the basin of the valley between the old and new towns, and the company lately offered premiums for the best places for a new station to occupy the whole ground. The choice of the directors has just been made, and the first premium of 350*l.* has been awarded to Mr. Charles Jopp, C.E., Edinburgh, one of the engineers of the company, and the second 150*l.* to Messrs. Bryce & M'Master, London. These plans have been selected from about thirty competitive designs, of greater or less merit. The difficulties in dealing with the site are unusual, a descent of about 50 ft. or 60 ft. having to be made from Princes-street to the level of the rails. Both the plans approved proposed to lower the booking-office to the platform level, instead of retaining it at Waverley bridge, a height of 30 ft. above the rails. Both also propose to remove the present Waverley bridge, and to replace it by an iron bridge. The directors do not bind themselves to adopt either of the prize plans, but secure by the premiums the property in both, so that the suggestions of the one are available for the improvement of the other. Wise directors!

Shrewsbury General Market.—The town council, without professional advice, have awarded the first premium to the design sent by Mr. Griffith, and the second to that of Mr. Peck. Fourteen sets of drawings were submitted.

Bristol Assize Courts.—The town council, on the 12th inst., resolved unanimously,—"That the new assize courts be built in connexion with the present guildhall, and, if possible, without interference with Colston's house; and that the finance committee be directed to offer suitable premiums for plans for the building." Mr. R. P. King said it was the intention of the finance committee to offer 100 guineas for the best design, and 50 guineas for the second best.

COLLISIONS IN THE STREETS.

ACCIDENTS in the streets, through collisions of carriages and the overrunning of pedestrians, have become so numerous that some stringent regulations of traffic should be made forthwith. Deaths from these causes have amounted to 230 the last year; having been on a progressive scale of increase fairly proportionate with that of the civic commerce and population. If the accidents which result fatally are so numerous, the injuries and mutilations are double that number.

The greatest danger lies not in the direct line of traffic, but arises from the rapid and reckless pace at which vehicles are driven from streets at right angles into the great leading thoroughfares: the torrent of Park-lane pouring into Piccadilly, and of Grosvenor-place, from the same line, are the scenes of constant mishaps; and other much-frequented traverse lines from the Strand and Holborn are nearly equally fatal to pedestrians.

The footways of these great arterial thoroughfares are at all times thronged with busy wayfarers, who, regarding only the pressure of carriages along the line, frequently cross the traverse street on their line of pavement without observing a carriage driven at the rate of six or eight miles an hour, which, without relaxation of speed, merges into the great current of the leading causeway at right angles: thus the old, infirm, or children, are often run over.

Surely there ought to be a regulation enforced that no vehicle should cross a public footway, from any street into another at right angles with it, at a rapid rate of driving, *nor at any other than a walking pace.* It is so difficult to estimate the speed of a trot, that no limit could be fixed in any other way; nor could security be given to *piétons* by any other regulation.

The writer, by using a little caution and patience, has never met any serious accident; still he has had various collisions, and some narrow escapes. Lately, in Piccadilly, on a wet day, with umbrella up, when crossing Half Moon-street, a cab was driven at high speed against him; the shaft pierced his umbrella and pressed his shoulder. The driver would scarcely allow the torn silk and disjointed frame to be extricated; in fact, he seemed quite amused. His number was noted, but the issue of a summons was doubtful, the trouble certain, and now, as the only record, "*Stat nominis* umbrella!"

On another occasion, walking last year with another sexagenarian in Holborn, a barouche and pair, going in the same direction, dashed by, just crossing Southampton-street, and doubled round so close as to press the horse's shoulder against both; and it was only by pushing against the flank of the near horse, and thus suddenly recoiling, that they avoided being run over and mutilated; the escape was, in fact, miraculous.

The police may, and do, keep the steady line of traffic tolerably safe, but they cannot prevent accidents at the turnings from thronged streets, through the reckless pace of drivers on entering upon or leaving the main line. It is thus that most of the serious mishaps occur, and the only way of stopping them is by inflicting a penalty for crossing the footway at any but a walking pace.

EMBLETON CHURCH, NORTHUMBERLAND.

WHEN Walter de Merton founded Merton College, Oxford, some six hundred years ago, it was endowed with possessions which included lands in North and South Northumberland. It would appear from architectural evidence that he built chancels to the churches of the two parishes in this county in which these lands were situated. That at Ponteland has been preserved, and, the ravages of time having been recently made good, presents a similarity in its treatment to that bestowed upon the College Chapel by the illustrious founder. The chancel at Embleton was taken down within the remembrance of a few aged persons, and replaced by a flimsy, tasteless piece of construction that is already showing danger-signals. Some dozen years ago the parish (including among the landowners Sir George Grey, Earl Tankerville, and Mr. Craster, of Craster, whose predecessors were the owners of the Turris de Craster in the thirteenth century and since); and the authorities of Merton College have now placed the chancel in the hands of their architect, Mr. F. R. Wilson, Alnwick.

On Thursday, the 8th inst., a parish meeting was called by the Rev. George Rooke, M.A., vicar of Embleton, when the design for the proposed new chancel-arch was submitted for the inspection of the parishioners. The architect has revived the original style of the fabric, that of the purest Geometric period, as being most in accordance with a due regard for the memory of its founder.

INDUSTRIAL EXHIBITIONS.

Liverpool.—The Workmen's Industrial and Fine Art Exhibition, which has been open in Old Post-office-place since the 23rd of January, was to be finally closed on Tuesday last with a concert. The exhibition has, on the whole, been a success, and the committee will be able, not only to pay their expenses, but to add a substantial sum to the Northern and Southern Hospitals, and give valuable prizes to the chief exhibitors of paintings, machinery, models of ships, &c.

Bristol.—The finance committee have held their final meeting, at which it was stated that there was a disposable balance of 580*l.* 15s. 7d. It was recommended that the balance should be devoted to various charitable purposes.

JASPER.

THE *Cosmos* gives the following information respecting the jasper which M. Garnier, the architect of the new Opera House at Paris, has selected for that edifice. Jasper is a variety of quartz which possesses the peculiarity of being completely opaque, even when cut into the thinest laminæ possible. It is either red, brown, or green. Jewellers now only use green jasper with red spots, but the other kinds of jasper are much sought after for ornamental purposes, especially in sumptuous monuments. Its chief quality, in fact, consists in resisting the effects of time,—or, in other words, the atmosphere,—which marble and other hard stones are unfortunately subject to. Jasper for edifices was usually imported from Russia and Siberia; but now valuable quarries of this stone have been discovered in one of the departments recently annexed to France, viz. Upper Savoy. The working of these quarries has just been commenced near Saint Gervais by a company. Among the specimens mentioned by the *Cosmos* there is one of a pure red without veins, which strongly resembles the stone known under the name of *rosso antico*. The working of the jasper quarries of Saint Gervais, which may lead to the discovery of richer veins still, will be most profitable, the quarry having a surface of about 20,000 square mètres, with a depth of at least 20 mètres. M. Garnier, the architect above alluded to, has ordered twelve columns and forty medallions of this jasper to be employed in the *foyer* of the Opera.

DWELLINGS FOR THE WORKING CLASSES, IRELAND.

A MEETING has been held here (in Dublin) to consider the question of improving the condition of the dwellings of the working classes. The report read referred to some eligible buildings for the purpose in question, particularly a large block situated in Meath-street and South Earl-street; and stated that Mr. Geoghegan, C.E., had gone into a calculation with a view to ascertain the probable outlay necessary to reconstruct them. The report having pointed out the financial results which attended the labours of dwelling companies in London, proceeded to show the great necessity that there was for an improved condition in the dwellings of the working classes in Dublin, and that if a company were started for this purpose, while the operations would confer inestimable benefits upon such of the working classes as would be enabled to avail themselves of its limits, in a commercial point of view it would be a decided financial success. The report, after some deliberation, was adopted, and a resolution was passed that a joint-stock company should be formed for the purpose of improving the condition of the dwellings of the working classes.

INTERNATIONAL HORTICULTURAL EXHIBITION.

WE have already informed our readers as to the Grand International Horticultural Exhibition and Botanical Congress, which are to take place in London in May next, under the patronage of the Queen and the Prince of Wales, and would again ask their co-operation.

The movement is being carried out by the aid of subscriptions, giving certain privileges. Some notion of the amount required to be raised may be formed from the fact that the tent and its arrangements will cost nearly 3,000*l.*, while 2,500*l.* are offered as prizes, and the foreign visitors have to be entertained. Hence it has been found necessary also to open a guarantee fund, in order to provide against such a casualty as the diminution of receipts at the doors by the occurrence of bad weather during the time the show is open. The office of the Exhibition is at No. 1, William-street, Lowndes-square, London.

WATERWORKS AND RESERVOIRS.

The Doe Park and Grimwith Reservoirs.—The leak at Doe Park Reservoir, of which so much has been said within the last month or two, has been discovered, and the defect is being remedied. The east end of the embankment, as originally constructed, was comparatively shallow, and the water ran under it through the rocky measures at its base. To amend this, some distance within the puddle wall, which runs along the middle of the embankment, a second puddle wall—a flanking wall—was formed, which went to a much greater depth, and quite below the strata through which the water had made its way. The Borough Surveyor supposed that the recent leak had been caused by the settling down of the flanking wall, and the consequent drawing away of the new wall from the old one, just at their junction; and so it has proved. The fault was found 22 ft. from the top of the embankment, two feet deeper

than Mr. Gott had anticipated. With the stopping of this leak it is said the embankment will be quite sound. The Grimwith Reservoir is completed, with the exception of a little "trimming" work, which will be done as soon as the weather is favourable. It is being filled with water.

Bridlington.—Last May a number of gentlemen formed themselves into a joint-stock company, for supplying the town and district of Bridlington and the Quay with water, and the work is now done. We understand that the company have reached a stratum containing an unlimited volume of water, and that their pumping machine is equal to supply the town if it should double its size. The supply has been reached by sinking a deep shaft through the clay into the chalk, and the flow into this shaft is so copious that no depression can be effected upon its level with the powerful machinery in use. The company's engineer is Mr. Josiah Forster Fairbank, C.E., of Westminster. The works have been completed under the estimate.

Cardiff.—The Lisvane Reservoir has been opened. In 1862 possession of land in the parishes of Lisvane and Llanishen was obtained, and a contract entered into for the completion of the new works, designed by the company's engineer, Mr. James Simpson, C.E. The reservoir and works have been carried out under the contract of Messrs. J. Aird & Son, of Lambeth. These additions, which comprise a reservoir of a capacity of 100,000,000 gallons of water, and also filtering-beds for the same, have all been completed and officially opened.

Waterworks in Parliament.—Mr. M. Gibson has obtained leave to bring in a bill to make better provision for the security of reservoirs, and otherwise to amend the law relating to waterworks.

SANITARY MATTERS.

Sunderland.—The Sanitary Committee of the Corporation, dissatisfied with the report of the guardians' medical deputation, as to the prevalence of fever in the parish, have themselves appointed another deputation of medical men, as well as a committee, to examine fully, and report upon the causes.

Gateshead.—Typhus still lingers in Gateshead, not merely confining itself to the houses of the poorer classes, but sometimes making its appearance in the houses of the more wealthy of the population. A correspondent of the *Gateshead Observer* states that he hears numerous complaints against the corporation for not emptying ashpits and middens when requested.

Manchester.—Fever is on the increase here, the weekly number of new cases having risen from 122 to 135, of which 15 terminated fatally.

PROVINCIAL NEWS.

Scarborough.—The new Borough Gaol has been completed, so far as the exterior is concerned, and the event has been celebrated by the contractors and their workmen, numbering upwards of 200, by a dinner at the Prince of Wales Hotel. It was provided by the contractors, aided by Mr. Alderman Haigh, during whose mayoralty the building was commenced. The new gaol is designed to accommodate thirty-six male prisoners, twelve female prisoners, and four debtors. Mr. W. B. Stewart, of Scarborough, is the architect; and the contractors are all tradesmen belonging to the town.

Margate.—At a recent meeting of the council of the Alexandra Memorial Home charity, the report of Mr. Moffatt, the consulting architect on the almshouses proposed to be built by Mr. Hayward, was read; and the council considered a proposition from Mr. Hayward to make the alterations suggested by the architect for an extra sum of 50*l.*, which was afterwards raised to 65*l.*, and this proposition was adopted. Mr. W. Sear was invited to act as surveyor to the Board. A proposal to invite the Prince of Wales to Margate in the spring, for the purpose of laying the foundation-stone of the building, was referred to a sub-committee.

Halifax.—The foundations are being laid of a new model lodging-house, in Smith-street. The erection will be at the expense of Mr. John Crossley. The old model lodging-house at Mulcture Hall is about to be pulled down, and the site occupied for other purposes.

Jarrow.—This flourishing little town will soon have a new market. Mr. T. Holmes, builder, has for some months been engaged in erecting a large block of buildings, situated in what will hereafter be called Market-square, and it is in the heart of the town. The buildings comprise not only a market-but shops, a spirit-bar, a large music-hall, arcade, refreshment-rooms, and offices as well.

HEREFORD CATHEDRAL BELLS.

WITH reference to an article in the *Builder* of the 24th ultimo, concerning the bells of Hereford Cathedral, Mr. Thomas Walesby writes,—

"I am glad to find that the Cathedral at Hereford now possesses a peal of ten bells, in good condition. According to an estimate made some years since, the weight of the tenor appears to be about 44 cwt., emitting the note C. It is stated in the communication which appeared in the *Builder* of February 24, that the fifth bell was recast by Messrs. Mears & Stainbank, of London, in 1865, and that the other bells were recast since the Reformation, with the exception of the ninth and the tenor. Will you allow me to add that the first, second, third, fourth, seventh, and eighth of the peal were evidently cast by the most eminent founder of his day,—Abraham Rudhall, of Gloucester; for the fourth, seventh and eight bells have his initials, and are dated 1697; while the inscription on the first or treble bell, "We were made Ten in the year 1697," and the date 1698, &c., on the second and third bells, show that they all came from the same noted foundry. But, as the inscription on the treble reads, "We were made Ten in the year 1697," the question may be asked, How is it that the second and third bells are dated 1698? My answer is, The second and third of the peal of 1697 were doubtless broken by some means or other, and then recast in 1698.

In conclusion, I would remark that the second, fourth, and seventh of the present peal respectively bear one of Abraham Rudhall's characteristic epigraphs, that on the second bell being "God prosper this church and all the members."

BRIGHTON.

THE local works committee's proceedings contain a long correspondence between the town-clerk and Mr. J. J. Bennett, whose tender for the erection of the proposed concrete groyne was accepted seven or eight months since. From these published letters it appears that the contract and bond were never executed, the contractor requiring that some more secure place should be furnished than that now used for storing the blocks when made, his yard on the beach having been twice washed away. The council approved a resolution of the committee to the effect that, unless Mr. Bennett executed the contract, and unless his sureties executed their bond, on or before the 15th instant, the contract should be cancelled.

The surveyor has appointed Mr. William Burns, of Birkenhead, as clerk of the works to superintend the erection of the Fish Market groyne. Mr. Burns will also superintend the erection of the drainage works now in progress.

There is a talk of converting the dome of the Pavilion into a corn exchange.

The new picture galleries at the Pavilion in connexion with the Museum having been completed, the council have resolved that the pictures in the Pavilion belonging to the corporation be removed to and hung in the new galleries.

TELEGRAPHY.

M. LISSAJOUS suggests a method of suppressing the shrill and continuous sounds emitted by telegraph-wires under the action of the wind. The plan that he experimented upon with the late M. Froment, some time ago, consists in pressing the wire strongly between two tassels of wood 40 to 50 centimètres long, drawn together by means of screws. This sort of muffler, applied at a certain distance from the point where the wires are fastened, is sufficient to extinguish any vibrations caused by the wind, which acts on the wires as it does on the strings of an Æolian harp.

M. Charles Tellier, inventor of the ammonia refrigerator and motive-power engine, has proposed a new system of submerging telegraphic cables at great depths, so as to prevent any understrain or jerks. This he would accomplish by means of parachutes attached to the cable at distances which would be best ascertained by experience. If a parachute will prevent, owing to the resistance opposed by the air, a heavy body from falling rapidly, it will surely be more effective in a medium 900 times the density. The advantages of parachutes to a cable are, that it would be able to descend more gradually than its own weight uncontrolled would permit, and thus relieve the breaks of that strain which is one of the most difficult portions of the operation of laying a cable. When upright, or nearly so, the parachute would be open, but on nearing the bottom it would gradually collapse as it becomes more horizontal, and at length would lie with the cable at the bottom.

THE SUBWAYS IN NOTTINGHAM.

As a resident in Nottingham, I venture to claim a little space in the columns of the *Builder*, for the insertion of a few lines upon "Subways."

We here attach but little importance to what has been hitherto said against them, for we fail to discover one good argument that has been advanced in opposition. All that has been said hostilely may be summed up in the word "explosion." That such an event as an explosion *might* take place I am scarcely in a position positively to deny; but I imagine the contingency to be a very remote one, rather calculated to remind one of the anecdote of the Yankee, who asked the gentleman "whether his name might be Smith." "It might," he replied; "but it arn't, by long chalks!" I fancy, Mr. Editor, that this hidden danger is about on a par with that risk you and I run any night, when we retire to rest with the gas "left on." A chandelier might drop, or a bracket fall of; yet we do not banish the gas from our dining-rooms or kitchens. It is easy to raise objections where interest makes "the wish father to the thought."

It appears to me, that one of three evils might be adduced as likely to bring about the leakage necessary to produce an explosion, viz., "defective joints," "vibration," and "excessive expansion and contraction." I have yet to learn that our engineering skill cannot overcome the first in *any situation*. With regard to the second, he would be a bold man indeed that would assert that vibration could not be so well grappled with in a subway as when pipes are laid (as they generally are with us) merely below the surface of the ground. "Fact," I think, disposes of the third objection; for pipes have been, and continually are, placed where they are subjected to every variation of temperature.

In the exercise of my profession, during the last twelve years, I have fixed many thousand feet of gas, water, and steam piping, in our factories and other buildings, and I seldom have a complaint of leaky joints—rarely so in the steam-piping, although these have to withstand all temperatures; for in many of our factories steam is turned off on the Saturday afternoon, and not got up again until the Monday morning.

Our able surveyor has provided us with two subways, and is about to provide us with another. I believe I am not saying too much when I affirm that the intelligent portion of our community are well satisfied with Mr. Tarbotton's arrangements, and are quite willing to pay the extra cost incurred.

A NOTTINGHAM ARCHITECT.

THE EGYPTIAN PYRAMIDS.

A LITTLE common sense on a subject on which there has been so much nonsense broached is a pleasant thing, and therefore I saw with much satisfaction the letter of Mr. Garbett in your last number, on the Pyramids of Egypt.

I have been for many years a curious reader of the various theories that have been put forward, and which has ended in my being a total disbeliever in any one of them, although I have waded through nearly all, from Greaves's "Pyramidographia" down to the northern astronomer's last lucubration.

Now, what are the actual facts on which are based all these theories. The ancient Egyptians are *said* to have been great astronomers, and also *said* to have been geometricians, this being

necessary to measure their lands, annually overflowed by the Nile; but what evidence have we that they had any knowledge of the shape of the earth, or that their observations of the heavens was other than that of practical observers of the changes of the seasons?

In the matter of simple measurements, they, like all ancient and Eastern nations, do not seem to have attached much importance to lineal accuracy; their measures, of which some score or so are to be seen in various collections, differ in the length of the cubit fully half an inch (say one-fortieth). It is true these are in nearly every case only rough workmen's measures; but then, they differ much more than our workmen's 2-ft. rules, though we all know these are not to be depended on.

Again, I have never found any two columns in an Egyptian temple of the same precise diameter; and even the so-called "King's Chamber," in the Great Pyramid of Ghizah, is not perfectly rectangular: the opposite sides, and the ends, too, are of unequal lengths; and yet, on the dimensions of this chamber it has been attempted to settle the precise length of their cubit to the thousandth part of an inch.

The Egyptians were splendid workmen, and that they did not build even a pyramid at random (like a pre-historic cairn), I will readily concede; and I recollect well going over the pyramids, many years ago, with Mr. Perring, who, from habit and from having carefully investigated them, was capable of forming an opinion, and he convinced me that there was throughout a certain intention—a design, so to speak, on which each was built, the angles being determined in the 2 to 1, or 3 to 1, or some other direct arithmetical proportion of base to height, such as Mr. Garbett suggests.

Before me lies the second volume of Bunsen's "Egypt's Place in History," the appendix of which by Mr. Perring contains the full particulars of the corrected dimensions of all the pyramids of Egypt, and some remarks; and to that and a letter from the same gentleman, in the *Athenæum*, of March 9th, 1844, I would direct the attention of Mr. Garbett, as also being in the same category of common sense as his own letter.

A. X.

DAMP WALLS.

"The late rains have penetrated the walls of hundreds of houses, and we have received more than our usual number of letters asking for a preventive."—Extract from *Builder*, March 3.

SIR,—Any one reading the foregoing will readily believe that the walls of many of the houses referred to have been so completely saturated as to be unfit for habitation; and in such houses the paper-hangings, books, and furniture (selected with much care), have been more or less injured; and as these walls conduct frost with the same facility as moisture, bed and other rooms (without fires) during the past season have been little better than refrigerators.

This being a fact, the intelligence of the age, and the advances made in practical science, lead us to inquire if houses of every class, as at present built (and in which females and children spend so large a portion of their time), are constructed upon proper principles. The interior of a house should never be influenced by atmospheric changes: it should be cool in summer, warm in winter, and dry at all times. These advantages will never be secured so long as houses are built with solid walls, "every course well flushed in."

The protecting influence of an air space is something wonderful: ice and furnace doors are both preserved by it, as are fruit and other trees by "double glazing" (from frost) in orchid houses; and the temperature within a house constructed with hollow walls would, at all seasons, be quite independent of external influences.

Acts of Parliament have been passed to prevent over-crowding and to render house drainage compulsory, yet no principle is *satisfactorily* determined in relation to the construction of buildings. The Building Act expressly stating that all walls shall be "solid," no provision is made for the supply of that great necessity of life—air—at a proper temperature, or in such a way as to avoid draught, or for its extraction after use. The perfection of our houses and public buildings depends at this time entirely on the sanitary knowledge of the architect who may be employed to design them, and who, intent on the beauty of his otherwise well-planned structure, overlooks the requirements of health; and, as a consequence, rich as well as poor, by respiring continually the same air within the rooms they inhabit, convert it into a poisonous gas most injurious to health, and rise from their beds unrefreshed and unfitted for the duties of the day.

Half the complaints that afflict humanity proceed from the total disregard or ignorance of the laws of health. Man was not thrown upon the earth by the hand of chance to vegetate like the rest of the animal creation, and then to die, leaving the world no better than if he had never lived. Man's health and comfort will ever be proportioned to his knowledge of the science of life, and if this formed part of the education of all classes, the result would be increased comfort and physical improvement.

GEORGE JENNINGS.

EFFLUVIUM INTERCEPTOR.

SIR,—The introduction of the Effluvium Intercepter in a line of house drain (as sketched in the *Builder* of the 10th inst.) would cut off the sewer air, and prevent it passing up the drain; but it would also cause confined air within the drain, between the trap and the drain-inlets: the remedy would thus be worse than the disease. It is almost certain that the sewer air would never acquire sufficient pressure to force its way through the water below the syphon dip. Neither is it at all desirable, if it could thus be done, as it would convert each house-drain into a sewer ventilator. Again, the confined air on the house side of the trap may, and doubtless would, acquire considerable pressure power; but that pressure would act first on the weakest inlet-trap, probably the kitchen sink, through which the confined air would escape until an equilibrium is obtained between the external and internal air. My mode of trapping and ventilating drains forms the subject of a notice in the *Builder* of January 22nd, 1859, p. 67, and the several appliances can be seen at Mr. George Jennings's depôt, Stangate.

JAMES LOVEGROVE.

DEFLEXION OF TIMBER BEAMS.

UNTIL the end of last week I was unable to take up the *Builder*, which must be my apology for not writing earlier to thank Messrs. Tarn and Conder for their very interesting and considerate explanations and criticisms of the *theoretical* deflexion of timber beams as advocated of late years.

In concluding this correspondence, I would beg to ask the attention of those who may have given the subject their consideration, to the fact deduced from my practical experiments and from the theoretical investigations, that, as it is next to impossible so to fix the ends of a beam for a safe calculation to be made for such a case, it would appear equally next to impossible in practice, so to fix the end of an arm as to prevent its deflexion being *double* that allowed by theory. Thus Barlow's deduction may be taken as the safer guide, as I observed in my previous communication, although it may not be truly correct.

I acknowledge that the necessity for using the low number of the modulus in the formula for the piece of memel, tended to show that it was probably a weak specimen (another reason for taking *double* and not *equal* deflexion); otherwise I consider that the two experiments were carefully performed, and the arm better secured than perhaps would ever be the case in practice. I trust I may see in your pages, trials made by others, and possibly performed on a larger scale.

WYATT PAPWORTH.

DEODORISING BY EARTH.

SIR,—I should feel obliged if any of your readers will inform me of any town or village deodorising the sewage by using earth in connexion with the privies. Any information to that effect will greatly oblige. SANO.

PATENTS CONNECTED WITH BUILDING.

STOVES OR FIRE-PLACES, ASH-PANS, AND FENDERS.—*C. J. Morgan.* Dated 23rd March, 1865.—The improvement consists in making a door at the back of the grate of such construction that it falls back from its closing point, which is an angle of twenty-five to thirty-five degrees on one side of the perpendicular to about the same angle on the other side of the perpendicular, to allow a good outlet for the smoke, and by having the door concaved it hides the back part of the flue when the valve is open, and makes a good conductor for the smoke, and allows the folding-doors or valve to open without obstruction to make the aperture almost as large as the interior of the grate. The novel valve or folding-doors are so hung that, with a sliding hinge or grooved joint, they, by their own weight, or impingement, can be opened or closed, and remain stationary at any point. The guard attached to the grate can be drawn out to any angle on the same principle, as more particularly described in the fender part of this fire-set. The next improvement is in the hearth, consisting of an arrangement of circular or straight iron, steel, or other metal plate or plates placed on the hearth to work like a Venetian blind, either by springs, centres, impingement, their own weight, or otherwise. A further improvement on the hearth consists in constructing a guard to the hearth (or grate as before referred to) having a rod or rods connected with telescopic or other standards capable of being raised, and thus produce a dress protector.

APPARATUS FOR CUTTING SCROLLS, FRETS, AND FILAGREE WORK.—*J. Kenman.* Dated 1st April, 1865.—This invention relates to a peculiar combination of machinery or apparatus for cutting scrolls, frets, or filagree work in wood, metal, or other materials capable of being so cut; and consists, essentially, in the employment for that purpose of a vibrating or oscillating frame, in which a fret straw is strained, such frame deriving its motion direct from a cam having two or more inclines or actuating surfaces on the fast-motion shaft, which may be worked by a foot-lever or otherwise.

INDICATORS AND FASTENINGS FOR WATER-CLOSETS, &c.—*H. K. Taylor.* Dated 20th April, 1865.—This invention consists in mounting a sliding-door, shutter, or screen in a suitable frame to close an aperture or window formed in the door, wall, or other part of a closet or other private room or place to which this invention is applied. When the closet or room is unoccupied, the sliding-door, screen, or shutter is kept back by an india-rubber spring, or by other means, so as to uncover the aperture or window through which the interior can be seen. To the sliding-door or shutter, a catch, latch, bolt, or other fastening is applied, which is the means employed for fastening the door of the room or closet when occupied, the act of fastening the closet-door being also the means of closing the aperture or window by closing or drawing the door, screen, or shutter over it, the word "engaged," or other suitable device, placed on the exterior thereof, indicating to those outside that the place is occupied.

HOARDINGS.

AT Westminster police court, Messrs. Trollope, builders, were recently summoned by Mr. John Dixon, ironmonger, Lower Eaton-street, Pimlico, to show cause why they did not erect certain platforms and hand-rails for the convenience of the public in Lower Eaton-street and Ranelagh-street; also why penalties should not be inflicted for not removing certain hoardings in front of their buildings. Mr. Dixon complained that the defendants had allowed the road to remain in an unfinished state for a considerable period, and that they might have taken down the hoarding or thrown it back as much as five months ago. His business had been seriously damaged by their conduct.

Messrs. Trollope's defence was that the parish surveyor, Mr. Richmond, had given them licence to occupy all the ground they had.

Mr. Arnold said it was the duty of the surveyor to see that the public rights were not encroached upon, and that hand-rails and platforms were erected for their convenience. When the vaults were finished Messrs. Trollope ought at once to have taken the hoarding back. The surveyor had no power to give a licence which in substance was illegal. Messrs. Trollope had no power to encroach upon the public footpaths and roads as they pleased, for by doing so they had greatly injured Mr. Dixon's business. The defendants must pay two guineas costs, and come up for judgment when called upon.

CHURCH-BUILDING NEWS.

Llanbedrog.—The parish church here has been re-opened for divine service. This church, in its former state, was a humble, plain, low building, with ceiled roof, decayed windows, and unsightly pews. Now the edifice has an open roof, mullioned and traceried windows, in the style of the latter part of the second period of Gothic architecture,—uniform, open seats, calculated to accommodate nearly 200 persons, new pulpit and reading-desk, and a designed portal. The chancel is separated from the nave by an old oak screen, which, as well as an old stone font, has been restored; this, and every other part of the contract work, having been executed by Messrs. W. Humphreys & J. Jones, of Pwllheli, builders. To complete the whole, three painted memorial windows, by Messrs. Forrest, Liverpool, have been put up by Lady Jones Parry,—the east window in three lights (the principal subjects of which are the infant Saviour, with Mary and Joseph, and the Wise Men at Bethlehem, the Crucifixion, and the Resurrection), is to the memory of her husband, the late Sir Love Parry Jones Parry; the other two chancel windows

being—the one, to the memory of her mother; and the other, to the memory of her brother.

Manchester.—St. John's Church, Stand-lane, has been consecrated. The site, which is on a high plot of land near the Stand-lane toll-bar, together with a donation, was given by the Earl of Derby. The church has been erected mainly through the instrumentality of Mr. Statter, of Stand-hill. The chief approaches are on the south, and on this side the churchyard wall is stepped down, to follow the slope of the road. There are two gateways in this wall, at the eastern and western ends, from which footways lead up to the level terrace upon which the church stands. Entering—as most persons will do—at the west end, we pass through a narthecal porch, 40 ft. by 8 ft., in the east wall of which are three doors communicating directly and severally with the centre passage of the nave, and with those of the north and south aisles. Looking eastward there is seen through the usual broad arch a spacious chancel, 39 ft. by 18 ft. The three apse windows are filled with Scriptural subjects, in stained glass, by Messrs. Heaton, Butler, & Bayne; and another window, by the same artists, not so costly, occupies the centre of the east wall of the south transept. Most of the other windows have a coloured border, worked in a pattern. The whole of the apse walls are polychromed by Mr. R. Park, of Preston, and there are other mural decorations and legends about the church, which are, for the most part, the handiwork of the incumbent. The chancel and sanctuary are laid with Minton's encaustic tiles, and the porches and passages elsewhere with red and black Broseley tiles, in patterns. All the benches are low and open, and will seat about 850 people. The contract was taken by Mr. Robinson, at 3,787. The altar-cloth, as well as the other fittings and furniture, were designed by the architect, Mr. J. Medland Taylor, of Manchester. The general plan is cruciform, with central steeple; but the steeple is over the western part of the chancel. Externally, the tower, rising over the chancel, is bevelled off into an octagonal belfry stage, from which springs a spire nearly 160 ft. in height. To the east of the tower is the hipped roof of the octagonal apse, and to the south the transept, whose gable is pierced with a rose window. In the angle stands the staircase turret leading to the ringing-loft and belfry. A large traceried window occupies the west wall of the nave, its sill being just above the west porch. The clerestory wall of the nave is pierced with eight cinque-foiled windows; and the aisles are lighted by eight pairs of single lights, with trefoiled heads. There are no chandeliers or pendants for the gas, but, at Mr. Statter's suggestion, a gas-pipe, with many jets, has been placed on the sill of each clerestory window. There are brackets in the aisles, porches, and elsewhere. The number of free sittings is about 450.

Thetford.—Some renovations are said to be in contemplation at St. Mary's Church. It is proposed to remove the gallery, and throw open all the south aisle, and place stained glass in the large window now lighting the belfry; the organ to be brought down to the ground-floor. The old-fashioned pews in the chancel end are also to be removed, and replaced by others resembling those in the aisle.

DISSENTING CHURCH-BUILDING NEWS.

Altrincham.—It has been determined to erect an Independent chapel and schools at Altrincham. The schools are to be completed first, and used by the congregation during the progress of the chapel. The group will be in the Italian style, of red brick and stone, with a moderate use of white stocks, and will be carried out for about 2,500*l.* The architects are Messrs. G. S. & R. W. Aitken, of Eccles, near Manchester.

Darlington (Durham).—The committee of the United Methodist Free Church are about to erect, from the designs of Mr. Hoskins, architect, a new district church and schools, at Nestfield, to meet the wants of the rapidly-increasing population, owing to the extension of the iron-works in this neighbourhood.

Huntingdon.—The proposed new Congregational church for this town, on the site of the late Dolphin inn and adjoining premises, will, it is expected, soon be commenced, or, at least, the pulling down of the old buildings. The site, when cleared, will make a considerable gap in the High-street and adjoining buildings. The building will be a Gothic structure, with a spire, the summit of which will be about 165 ft. from the pavement. The cost of the edifice will be about 9,000*l.*; of this sum 1,000*l.* more require to be raised by the town, and 1,000*l.* from friends beyond.

Manchester.—The foundation-stone of a new chapel and schools about to be erected on the Ashton New-road, for the Methodist New Connexion, has been laid. The chapel is calculated to accommodate upwards of 350 people. The architects are Messrs. Shaw & Webster, of Manchester, and the contract for the whole of the works complete (except heating) has been undertaken by Messrs. Ellis & Hinchcliffe, of Manchester, at a cost of 1,504*l.*

STAINED GLASS.

Keighley Church.—A stained-glass window has been erected in the north side of this church, to the memory of the late Mr. J. G. Sugden, of Eastwood House. The work was done by Messrs. Ward & Co., of London, and placed in the window by Mr. James Harrison, glazier, Keighley. The subjects are illustrated in three compartments, viz.:—1st. The Shepherds, &c., paying Adoration to the Child Jesus; 2nd. The Ascension of Christ, as seen by the Apostles; 3rd. The Body of Christ sought at the Sepulchre by Mary Magdalen, Mary the Mother of James, and others.

St. Peter's, Newcastle.—A stained-glass window has been erected in the south aisle of this church, in memory of the late Mr. Stephen Reed, coroner for Northumberland. The window is of the floriated period, and contains three compartments. The design is the parable of the Good Samaritan. In the first opening is shown the Samaritan pouring oil into the wounds of the man who had fallen among thieves,—in the distance the priest and the Levite pass by; in the second opening the Samaritan is depicted taking the wounded man to the inn; and in the third, the Samaritan paying the host. Each portion of the subject is surmounted by a canopy of foliage, on red and blue grounds alternating. Under the picture are angels with scrolls. The tracery is filled with ornament, on which is a bust of Our Lord. The window is from the establishment of Mr. Wailes.

Crayford Church.—A stained glass window has been erected in this church, to the memory of the late Mr. Charles Swaisland, by his nieces. The subject is the Crucifixion, and the work has been executed by Mr. O'Connor.

SCHOOL-BUILDING NEWS.

Manchester.—The new building for the Wesleyan Schools at Higher Broughton stands on a plot of ground immediately behind the Wesleyan Chapel in Great Cheetham-street, and consists of a mixed school-room, 48 ft. by 30 ft.; infants' school-room, 36 ft. by 18 ft.; and three class-rooms, 18 ft. by 11 ft. 6 in. each. In the basement underneath these class-rooms, are store-rooms, heating-chamber, and boiler-room. The conveniences are placed at the back, apart from the main building. There are two entrance porches at the front, and two others communicating with the back yards. The principal rooms are 15 ft. 6 in. high to the wall-plate, and 19 ft. 9 in. to the ceiling. The principals are wrought, stained and varnished, and rest on shaped stone corbels. The two school-rooms are connected by a large archway, with doors, and can therefore be opened into one large room when necessary. The walls are built of seconds bricks, and plastered on the inside: they are 16 in. thick, formed with a 2-in. cavity, and strengthened with buttresses opposite each principal. The style is Early English, very plain and inexpensive. Owing to the unevenness of the ground, and the loose sandy nature of the soil, the foundations at one end have had to be carried down to a considerable depth. The rooms are warmed by hot-water pipes, and are well ventilated. The cost of the building is about 1,300*l.* The designs were prepared by Messrs. Hayley & Son (now Hayley & Dawes), of Manchester. The contractor was Mr. Tickell, Strangeways.——The new Wesleyan Day and Sunday Schools, Cheetham-hill, have been opened. The schools, including the chapel and schools in Rooden-lane, which are in connexion with the same body, will cost about 3,100*l.* The new buildings measure 72 ft. by 34 ft. They are also furnished with a library, and have three separate entrances. The architects were Messrs. Clegg & Knowles, and the builder Mr. M. Foggett, of Manchester.

Shields.—The foundation-stone of a British School at Crook, for Dissenters, has been laid. The school-house will have a main front of 92 ft., and a north-eastern front of 103 ft. There will be a boys' school and class-rooms, and a girls' school and class-rooms; and it is in contemplation to have an infant school attached. A house will be provided for the master, and around the structure, which will be in the mixed Gothic and Elizabethan style, there will be a large play-ground for the children. The school, which is expected to be opened in September, will hold 400 children. It will be built by Messrs. Walton & Hare, builders, Crook, and the estimated cost is about 2,000*l.*

Maidstone.—New schools for All Saints' and St. Philip's, Maidstone, are to be erected. The buildings, it is said, are to be all completed and occupied by the end of the year. The architect for the schools for All Saints' parish, to be built on the new road leading to Tovil, is Mr. E. W. Stephens, and the contractors are Messrs. Clements & Wallis. The amount of the contract is 2,445*l.* The designs for St. Philip's are not completed. The total expenditure (both schools), has been set down at 4,870*l.*, of which 4,390*l.* have been subscribed, leaving about 500*l.* yet to be made up.

Sandgate.—The new schools erected on the site presented by the Earl of Radnor, at the sole expense of Mr. James Morris, of Encomb, Sandgate, approach completion. The buildings are of Kentish rag, with Bath stone dressings; and comprise boys', girls', and infants' schools, also master's and mistress's residences. The whole of the roofs are of Memel timber, stained and varnished, and covered with red and black Staffordshire tiles, the architecture being a transition from the Norman to the Early English period. The structure was designed by Mr. Hardwick. The contractor is Mr. Matthews, of Dover.

Books Received.

VARIORUM.

"IMPROVEMENTS in Apparatus employed in the Manufacture of Gas." By George Anderson, Gas Engineer, London. Although the chief object of this pamphlet is doubtless to obtain business, it contains a good deal of matter which must be useful "to the directors, secretaries, and engineers of gas companies," to whom it is addressed; with an occasional "wrinkle" to the public as gas consumers, showing how it is sometimes that they are made to pay high prices for wasteful production of gas without profit even to the gas shareholders. In one case, Mr. Anderson tells us, he found ten furnaces in use manufacturing gas which had yielded no dividend for ten years: after remodelling the works, two furnaces were found sufficient, and coke which had gone up the chimney was sold to the public. Next year the works yielded a dividend of 6 per cent. No doubt the ten years' argument for keeping up the price was, that there was no dividend. In another case, where retorts were remodelled, 10 cwt. of coke per ton of coal were realized instead of 7 cwt. The result was, that within two years, in addition to the usual dividend, back dividends or arrears were paid for years on which there had been no profits. The author of the pamphlet, notwithstanding he is speaking of his own exploits, appears to be a man of invention and ready resources in his business as a gas engineer, and ought to be of some use to the public as well as to the gas companies.——"Occasional Papers of the Working Men's Club and Institute Union." Office, 150, Strand. These are monthly penny tractates on subjects of interest or benefit to working men. One is titled, "Working Men's Clubs promote Domestic Comfort." This they do, as the Bishop of London pointed out, from their having not only redeemed drunkards and tipplers to sobriety, but formed a sort of stepping-stone from the infernal gin-shop to the comfortable home, *for which even the clubs are at length neglected.*——"British Rainfall, 1865. On the Distribution of Rainfall over the British Isles during the year 1865. Compiled by G. J. Symons." London: Stanford, Charing-cross. Also Symons's "Monthly Meteorological Magazine: February." Stanford. These are useful

periodicals to all interested in meteorology. The rainfall as observed at above 1,000 stations in Great Britain and Ireland is here recorded, with remarks on various experiments and illustrations. —— "The Model Ready Reckoner. London: Warne & Co. 1866." This small volume contains many tables, showing the value of any number of articles, from one-sixteenth of a penny to twenty shillings; including interest, commission exchange, banking, population, &c.; besides a variety of useful matter at the end, such as commercial forms, abbreviations, weights and measures, &c.——"Fire considered as the Seaman's Scourge. By Captain Alfred Matthews, R.N. London: Longmans & Co." A glance is here given at the causes of a few of our most serious losses from fires at sea, beginning with the *Boyne*, 1795, and ending with the *Bombay*, 1864. There is nothing for it, he thinks, but multiplied precaution, — a well-digested system of police, steadily adhered to, backed by an intelligent able-bodied staff. The narratives given are interesting. We attach more importance than the writer does to certain provisions that might be made.

Miscellanea.

PROPOSED NEW EXCHANGE FOR SHREWSBURY.—The money for a new Exchange for Shrewsbury has been subscribed, and the subject is before the town-council for consideration of the terms on which the new edifice may eventually become the property of the town.

CHURCH EXTENSION IN THE EAST.—A Smyrna correspondent says:—"Our little English church at Boujah is nearly finished, but want of funds delays its completion. At Bournabat we have a little gem of a church, built at the sole expense of our *doyen*, Mr. Whittal. The Roman Catholic cathedral is advancing rapidly towards completion. Its shell walls are already high up, and there are, it is said, ample funds collected."

ST. JAMES'S TOWER, TAUNTON. — In consequence of public opinion being much against the destruction of this building, no further steps, since the signing of the contract for the rebuilding, have been taken; but, as a fresh crack in one of the buttresses has appeared, a vestry meeting was called to take the matter into consideration. It was decided that the buttress should be supported for the present; and the meeting was adjourned, with the understanding that the churchwardens should frame the notice so as to enable the vestry to rescind, if they saw fit, the resolution determining to pull down and rebuild the tower.

THE READING DRAINAGE QUESTION.—Mr. W. Carter, Surveyor to the local Board of Health, has just published, in the form of a pamphlet, a report on the recent drainage and sewage works of Carlisle, Worksop, Croydon, Worthing, and other places, of which Mr. Rawlinson, C.B., frequently spoke during the sittings of the Rivers Commission in this town. Mr. Carter instituted inquiries at these boroughs, in consequence of a resolution of the Board, and the facts connected with the works which have been carried out are summed up by the Surveyor, who states in his pamphlet that the united evidence given in the reports for the various cities and towns "proves that, although they have reaped the great advantage of a higher sanitary condition, the great difficulty still remains in not knowing what to do with the sewage after its collection."

PUBLIC BUILDINGS IN SCOTLAND.—The following sums are allotted in the Civil Service Estimates to public buildings in Scotland:—Sum that will be required for the maintenance and repair of royal, public, ecclesiastical, and collegiate buildings, and charges attendant thereon, 9,770*l*. Courts of Law, Edinburgh—for renewing the great south-east window of Parliament Hall, total estimate 2,000*l*.; amount already voted, 1,500*l*.; amount required for 1866-7, 500*l*.; ditto, for extending the accommodation of the Crown Agent's Chambers, 700*l*. General Assembly Hall—for providing additional accommodation, 1,500*l*.; Industrial Museum, Edinburgh—for altering the roof, paving, and for other works, and for painting and decorating the building, 2,925*l*.; ditto—for glass cases for exhibiting specimens, 2,000*l*.; Royal Botanic Gardens—for repairs and painting of the palm-house, conservatories, &c., 842*l*. The total for Scotland is 18,795*l*.

IMPROVEMENTS IN RAILWAY TRAVELLING.—A Liverpool contemporary is informed that the London and North-Western Railway Company purposes making great alterations in the passenger traffic between London and Liverpool. They are now building sets of saloon-carriages, in which all the required and desirable comforts will be provided. There will be smoking-rooms, coffee-rooms, &c. The express trains will not stop at any intermediate station, as water will be taken up at Rugby while the train is in motion. The journey will be performed in four hours.

WORKS AT IPSWICH.—A company is in course of formation for the purchase of Mr. Read's shipbuilding yard at Ipswich, and the construction of a new dry dock on a portion of it. It appears remarkable that so thriving a port as Ipswich should be without any accommodation for the repair of vessels, and that vessels trading to the town should be compelled to go to Yarmouth or Lowestoft for any necessary repairs. This manifest inconvenience and loss to the town is proposed to be remedied by the above company. Plans, with a report and estimate, have been submitted by Messrs. Bacon & Bell, of London, and there seems a probability of a speedy commencement of the undertaking.

A FIELD CLUB FOR NORTH LONDON. — Some thirty or forty gentlemen, resident in the north of London, and interested in the studies of zoology, botany, &c., have formed themselves into a club (near Canonbury), for the purpose of advancing these studies by mutual co-operation. Frequent excursions will be made by the members of the club, on Saturday afternoons, all through the summer, to the woods, meadows, river-sides, &c. (principally near town), in the furtherance of this object. Any of our readers really interested in the animal and vegetable kingdoms, and desirous of knowing something more of the natural forms, varieties, habits, and colours of plants, birds, insects, &c., than can be picked up in Covent Garden market, or the rabbit-fanciers' shops in Seven-dials and elsewhere, and who may be disposed to pay an annual subscription of 5*s*. for that purpose, are advised to communicate with the Secretary, 103, St. John's-street-road, N.

THE BRIDGE BETWEEN NEWCASTLE AND GATESHEAD.—Preparatory to the re-erection of this old bridge, a temporary one is being erected a little to the west of it. The temporary bridge will have the same number of arches in the river, corresponding with the arches of the present bridge. The width of the roadway will be 22½ ft., and the footpaths 6 ft. 3 in. each. The piers will consist of a double row of piles of six each, with cutwaters. The erection was commenced in September last, and will be completed next month. The plans, which have been sanctioned by the Board of Trade, were prepared by Mr. Ure, under whose personal superintendence the work of constructing the new bridge is being carried out. On the site of the present bridge the new one will be constructed, which it is expected will take about three years to complete. It will be made with an opening, and a clear thoroughfare for masted ships, and will also admit of the commissioners' dredging-machines and other plant to pass to the upper river for its improvement.

SUBMARINE CABLE CONSTRUCTION. — It has been suggested by Mr. T. Fenwick of Stockton-upon-Tees, that a buoyant cable might be thus formed:—"I would have an ordinary conductor, insulated with Macintosh's composition, and over this a coating of gutta-percha, applied in the ordinary manner. This being done, I would place, at certain distances apart, 'round pieces of cork,' having a hole in the centre of each, through which I purpose to run the cable. I would then further encase and protect the conductor, by having a gutta-percha or india-rubber tube, well lined and strengthened by strong canvas (similar to hose-pipes) which would prevent elongation, &c., and in which tube I would place the cable. The cable, therefore, being buoyant, but not sufficient to float, there could not be any danger of its being either strained or otherwise injured in laying. . . . . This, then, I consider is a perfect cable, and one that will cost much less than either that of 1865 or the one which is now being proceeded with." Floats of different kinds have been before suggested, and we fear not much dependence could be placed in the tube as a promoter of buoyancy. The cable, too, must be a very light and fragile one if cork could keep it buoyant.

GAS WORKS.—The tenders for the erection of the Folkestone gas-works have been given in, and the lowest, that of Mr. Matthews, of Dover, of 6,474*l*. for the brickwork, &c., has been accepted.

THE NOTTINGHAM BARRACKS.—In reply to Sir R. Clifton, in the Commons, the Marquis of Hartington stated that the land for these barracks was purchased in 1860, and extended over 21 acres, the cost having been 5,200*l*.

RECREATION GROUND FOR HALIFAX.—The Hon. Mr. Savill has relinquished his manorial rights on the uninclosed portion of Skircoat Moor to the corporation of Halifax for a recreation ground, on payment of the sum of 100*l*.; the council to exercise their powers to abate the smoke nuisance, which is constantly increasing.

PROPOSED PUBLIC HALL IN CARLISLE. — The object of the promoters of this project is to secure for Carlisle a large hall capable of containing from 1,500 to 2,000 people, and suitable for public meetings, musical, dramatic, equestrian, or other entertainments. A committee has been appointed to make inquiries as to what sites are available for the purpose. The capital of the company is to be 5,000*l*., in shares of 5*l*. each.

THE CHAPTER-HOUSE, ST. PAUL'S.—A correspondent writes,—The next time your inspector of annoyances passes through the City, I trust he will call and jog the memory of the dean and chapter of St. Paul's Cathedral, and beg their attention to the very unsightly and discreditable state of the circular stone pediments to the frontispieces of the two entrance doorways of their chapter-house, as seen on passing through St. Paul's Church-yard, which seem to nod to each other with melancholy feelings of shame at the neglect under which they are suffering, and have now so long suffered. They were patched up some years since within my own recollection, but in so trumpery a way that the walls fell down, and carried some adjoining parts down with them in their fall. The very able architect of the cathedral would, of course, wish to put new pediments in stone, copies of what these were when sound.

BERKHAMPSTEAD COMMON.—Earl Brownlow, a few weeks ago, enclosed the greater part of Berkhampstead Common, in Hertfordshire, to the great annoyance of the commoners and his neighbours in general; more particularly, however, of Mr. Augustus Smith, of the Scilly Islands, who owns an estate in the neighbourhood, and who undertook to be the champion of the common cause. In fulfilment of his determination, Mr. Smith chartered a special train on the London and North Western Railway, which left Euston at half-past one in the morning, conveying upwards of a hundred workmen, most of whom were in ignorance of their destination, having promised simply to obey orders, but who were directed to bring each man his crowbar or other weapon of destruction. A march of three miles from Tring station brought the invaders to the scene of action; and before six o'clock the whole of the strong iron railing which had been erected by the noble earl was levelled to the ground. The cost of the three miles of iron railing removed is said to have been more than 1,000*l*., and that of its removal must have been considerable.

ROMAN REMAINS IN FRANCE.—At Avignon, says a foreign journal, in the line of the new Rue Buonaparte, on excavating the foundations of the Maison Dupoux, a Roman wall was discovered at 3 mètres below the surface. This wall traverses the Rue Argentière, and is prolonged, for an unknown length, towards the Rue Bancasse, where, a few years ago, in excavating the ice-pit of the Café Henri IV., mosaics were found. Near this ancient construction, composed of cement mingled with granitic concrete, were found fragments of amphoræ, funereal urns, lacrymatories, bricks, and rams' horns in earthenware. Undermining with difficulty a portion of the wall which had, perhaps, served for the basis of a triumphal arch or a temple of Jupiter, the spade turned up a fine medal, in pure gold, about the size of a 20-franc piece, but much thicker, bearing this inscription, "Nero Cæsar Augustus." The reverse represents a goddess seated on a curule chair, bare-headed, holding the orb of the world in the right hand extended, and in the left a cornucopia, with the inscription "Concordia Augusta." This medal was as perfect and brilliant as a coin just issued from the mint, although it dates from the year 54 of the Christian era.

CENTRAL HALL OF ARTS, KENSINGTON GORE.—Boxes and stalls have now been bought to the amount of 69,300*l.*

A DRINKING FOUNTAIN FOR DUDLEY.—At a recent meeting of the town council, the clerk said the mayor had received from Earl Dudley a sketch of a drinking-fountain which his lordship proposed to erect in the market-place. The design, his lordship stated, would be submitted to the council. The fountain would be 22 ft. by 24 ft. The erection will cost about 2,000*l.*, and the supply of water about 60*l.* or 70*l.* a year. The communication was referred to a committee.

FIRES IN THE METROPOLIS.—Mr. H. Browne points to the fact that fires can best be dealt with at outbreak, and urges that a large placard, printed in bold type, containing hints and suggestions, under the following, or similar heads, would save an immense amount of property:—

"Residents in all Premises necessary.—Careful Supervision of the same when Retiring to Rest.—Use of a Safety Lamp, examining Gas, Fires, &c.—Stowage and Inspection of Combustible Articles.—Use of Paper and Matches in Lighting Fires, Gas, &c.—Dangers in Public-houses, Tobacco-shops, and Public Places of Resort.—Employers to Caution all in their Service.—Aged, Insane, and Intemperate Persons.—Dresses, Crinolines, Fireguards, and Children.—How to act in Case of Fire, and Presence of Mind enforced."

BATHS AND WASHHOUSES IN ST. PANCRAS.—The Baths and Washhouses Commissioners have reported that they have, after great exertion, in the course of which the Duke of Bedford and Lord Southampton had thrown every obstacle in their way, obtained a site on which to build baths and washhouses. The site was in King-street, Camden Town. They had come to an arrangement to pay 1,600*l.* for the leasehold of sixteen years, and then 1,260*l.* for the freehold, making a total of 2,860*l.* The site for which this was to be paid was 180 ft. long by 60 ft. wide. It is proposed to have three baths and washhouses in the parish.

THE WORCESTER "ARBORETUM" QUESTION.—Worcester appears to be strangely at variance with its town council on this subject. The council recently decided in favour of the purchase by twenty-seven votes against eleven; but on the same day a large number of the ratepayers in public meeting unmistakably demonstrated their disapproval of the scheme, although the Earl of Dudley has liberally offered to give 5,000*l.* towards the sum required, and it is proposed to raise 3,000*l.* from the county; so that the city has only to concur in the resolution of the council to memorialise the Lords of the Treasury for permission to invest in the purchase 5,000*l.* of the money received from the enfranchisement of the corporation property.

MARKET HARBOROUGH.—At Illson-on-the-Hill, a new "Grange" has been built by Captain Baillie; and another mansion, in the same parish, is likely to follow. Captain Baillie's mansion is about half a mile from the village, and is near to the Old Gartree-road. The Grange is built on a slight eminence, and commands a view of the vale beneath. The building is in the Elizabethan style of architecture, and is of brick with stone dressings. The entrance-hall door is of panelled oak. The vestibule floor is of Minton tiles. The hall, which is large, is panelled throughout, and is to be varnished. The staircase is of oak. The dining-room, which is 30 ft. long by 21 ft. wide, and 15 ft. high, is also panelled throughout, and stained. This room is quite finished, as is also the drawing-room, which has three bay windows, and is panelled to about 4 feet high with linen fold panelling. The billiard-room is spacious, and in keeping with the other parts of the building. There is a large number of rooms. Gas is to be manufactured on the premises, and will be introduced into every part of the house. The stables are divided into two parts, with a corridor 115 ft. long. On one side are the stables, with washing-box, cleaning-room, harness-room, &c.; and on the other are loose boxes, and a coach-house at the end. Over the loose boxes are rooms for the servants, and over the other side lofts for hay, straw, &c. In each stable-door a pane of glass is inserted, so that the horses can be seen without opening the door to disturb them. These buildings are surmounted by a turret and clock. Mr. W. Millican is the architect; and the contractors are—for brickwork, Mr. Hutchinson; for stonework, Messrs. Osborne, Brothers, Leicester; and for woodwork, Mr. J. Loveday, Kibworth. Mr. Meridith was clerk of the works.

SUBURBAN VILLAGE COMPANY.—Sir Morton Peto, M.P., has become the president of the Suburban Village and General Dwellings Company; and Messrs. John Everitt, Edward Vigers, Carrington Jones, and E. Moore, have joined the board of directors.

METROPOLITAN ASSOCIATION OF MEDICAL OFFICERS OF HEALTH.—At the next meeting of the Association, to be held on (this) Saturday evening, the discussion adjourned from the last meeting, on Mr. Begg's paper on "The Dwellings for the People in the Metropolis," will be resumed.

COST OF THE THAMES EMBANKMENTS.—It appears from an official paper that the payments made by the Metropolitan Board of Works to March, 1865, amounted to 334,991*l.* for the northern embankment, 130,000*l.* for the new Mansion-House-street, and 8,000*l.* for the southern embankment. The sums named do not, of course, indicate the total estimated costs of the works. Apart from claims for houses, lands, leases, &c., we notice that the contracts for the North Embankment are:—No. 1, Mr. George Furness, 520,000*l.*; No. 2, Messrs. Ritson & Co., 229,000*l.* For the South Embankment, commencing opposite the Houses of Parliament, the contract has been let to Mr. W. Webster for 309,000*l.* This amount will include the construction of the embankment, and numerous improved approaches to it. Claims for properties required for the new street from Blackfriars Bridge to the Mansion House, amounting in the aggregate to 327,590*l.*, have been settled, according to the report of the Metropolitan Board of Works, for 288,991*l.*

THE OLD COLLEGE OF PHYSICIANS, WARWICK LANE.—Our advertisement columns show that the old College of Physicians, erected from the designs of Wren, is to be sold. It is of this building Garth sings after his fashion;—he says,—near the Old Bailey,—

"There stands a dome majestic to the sight,
And sumptuous arches bear its oval height;
A golden globe, placed high with artful skill,
Seems to the distant sight,—a gilded pill."

It is much to be desired that it be bought as a whole and re-used, rather than be sold piecemeal and distributed.

THE PRINCE OF WALES' DESSERT SERVICE. The dessert service which has been made by Mr. Alderman Copeland by order of H.R.H. the Prince of Wales exhibits a large amount of art, and very good art too. Thus the great centre piece of the set includes reduced models by Mr. Joseph Durham of his four fine figures representing the quarters of the globe, which form part of the memorial of the 1851 Exhibition set up in the Horticultural Gardens: the figures that carry the fruit-dishes were modelled by Mr. F. Miller; and Mr. G. Halse contributed symbols of the elements. The painted decorations, mostly floral, are mainly the work of M. Hürten: the ice-pails are particularly satisfactory. Both the lines and colours of the cups and saucers must also be praised; in fact, the whole may be regarded as a very successful work.

ENCROACHMENTS OF THE SEA AT DOVER.—Our readers will remember that we called attention to the damage done at Dover from the inroads of the sea the other week. We are glad to notice that the matter has been brought before Parliament. On Friday last, Major Dickson asked the Secretary of State for War whether there was any objection to lay before the House a copy of the official correspondence that has taken place with reference to the encroachments of the sea near the Guildford Battery at Dover; and if there was any objection to state what steps the Government had taken or propose to take in relation thereto. The Marquis of Hartington said there was no objection to give the official correspondence on the subject, but he could not say what steps the Government proposed to take until after further communications on the subject with the corporation of Dover.

TENDERS

For the erection of temporary abattoirs for the Corporation of Norwich. Mr. J. S. Benest, architect. Quantities supplied:—

Bishop	£256 0 0
Hall	248 15 0
Wright	248 0 0
Foyson	245 0 0
Balls	237 10 0
Browne & Bailey	233 0 0
Lacey	220 0 0
Gilbert	187 0 0
Downing	154 7 0

For temporary dead meat market for the Corporation of Norwich. Mr. J. S. Benest, architect. Quantities supplied:—

Browne & Bailey	£734 15 0
Foyson	716 0 0
Bishop	702 0 0
Lacey	675 0 0
Wright	648 0 0
Hall	647 0 0
Downing	630 0 0
Balls	578 0 0
Gilbert	568 0 0

For a market-house, town-hall, and public rooms, &c., at Camborne, Cornwall, exclusive of granite dressings, paving, and fittings, for butchers' market and town-hall. Mr. W. Bond, jun., architect:—

Williams & Mills	£4,102 2 8
Olver and Sons	3,705 0 0
Vivian & Bennett (accepted)	3,550 0 0

For two villas at Maidenhead, for Mr. W. Nicholson. Mr. Chas. Cooper, architect:—

Vickery	£2,130 0 0
Lamb	2,088 0 0
Silver & Son	1,796 0 0
Woodbridge	1,687 12 0

For a new warehouse, Gun-street, Spitalfields. Mr. Robert P. Notley, architect:—

Colls & Son	£1,643 0 0
Dearsly	1,630 0 0
Hart	1,451 0 0
Browne & Robinson	1,443 0 0
Jennings	1,438 10 0
Wills (accepted)	1,423 0 0

For twelve cottages at Basted, in the parish of Wrotham, Kent. Messrs. Morphew & Alldridge, architects:—

Fitness	£2,700 0 0
Stevens	1,950 0 0
Hoadley	1,940 0 0
Yates	1,900 0 0

For villa residence, Sevenoaks New Park, for Dr. Lovegrove. Messrs. Morphew & Alldridge, architects:—

Grover	£2,639 0 0
Yates	2,508 0 0
Hoadley	2,490 0 0
Stevens	2,250 0 0

For alterations and additions to the Woodlands, Southwood-lane, Muswell-hill, for Mr. Lehmann. Mr. F. G. Widdows, architect:—

Ennor	£3,727 0 0
Piper & Wheeler	3,700 0 0
Axford & Whillier	3,663 0 0
Colls & Son (accepted)	3,442 0 0

For Christ Church, Gipsy-hill, Norwood. Mr. J. Giles, architect. Quantities supplied by Mr. D. Young:—

McLachland	£9,425 0 0
Carter & Son	9,015 0 0
Marsland	8,150 0 0
Sawyer	7,703 0 0
Sims & Marten	7,418 0 0
Aviss & Son	7,313 0 0
Jones	7,070 0 0
Dover	6,397 0 0
Byah	6,290 0 0

For the erection of new wing to St. Mary's Hospital Paddington. Mr. W. Wigginton, architect:—

Ager	£6,020 0 0
Abrahams	6,009 0 0
Axford & Whillier	5,965 0 0
Ennor	5,914 0 0
Killby	5,890 0 0
Nutt & Co. (accepted)	5,866 0 0

For temporary church, Sunbury. Mr. W. Wigginton, architect:—

Axford & Whillier	£960 0 0
Wheatley	622 0 0
Hearle	595 0 0

For basement, 144, Leadenhall-street. The tenders in last number should have ended thus:—

I'Anson	£2,200 0 0
Piper	2,153 0 0

TO CORRESPONDENTS.

W. C.—W. B.—F. L. S.—W. S.—F. G. W.—L. & C. PA.—C. W.—A. G.—Le G.—T. M.—A. M.—E. A. G.—A.—M. & A.—R. P. N.—J. F.—P. L.—W. W.—A. H.—F. W.—E. W. T.—F. F. B.—Mr. S.—W. F. S.—B. & B.—T. W.—K.—Hereford.—F. F.—J. N.—A. H.—A Parish Priest.—C. G. W.—Subscriber.—Old Subscriber.—W.—Capt. T.—A. M.—G. M.—A Builder.—Enqu'ro (should apply to glass-works to be safe).—E. W. (sent to the inquirer).—J. M. (ditto).—C. I. (ditto).—J. P. (shall appear).—C. T. (ditto).—Smoke Nuisance (half-a-dozen correspondents wish us to inquire for the best smoke-consuming stove. Manufacturers must take their own means of making known the merits of their respective inventions).—Construction of Dry Walls (several letters on this subject may receive attention together hereafter).—H. (very slightly).—A. & Co. (yes).—W. L. & Sons (next week).—A Builder (we should not expect the wash to be very effectual if applied only on the inner surface of the walls).

We are compelled to decline pointing out books and giving addresses.

All statements of facts, lists of tenders, &c., must be accompanied by the name and address of the sender, not necessarily for publication.

NOTE.—The responsibility of signed articles, and papers read at public meetings rests, of course, with the authors.

GOOD FRIDAY.—NOTICE.—"THE BUILDER," for the week ending MARCH 31st, will be published at TWO p.m., on THURSDAY, 29th inst. Advertisements for insertion in that number must therefore reach the Office **before THREE p.m.,** *on WEDNESDAY, 28th.*

The Publisher cannot be responsible for ORIGINAL TESTIMONIALS *left at the Office in reply to Advertisements, and strongly recommends that* COPIES ONLY *should be sent.*